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LOUIS PASTEUR*

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I have seldom had the opportunity of addressing an audience composed almost in its entirety of men who have acquired the awe inspiring privilege of adding to their names the cabalistic and significant letters M. D.; men who because of their training, learning and experience are the consecrated and official arbiters of that which we hold most sacred and precious in this world, our life; men who wield the enormous power of shortening or increasing our span of life and through whose certificate and signature alone we are pronounced definitely, absolutely and conclusively dead, even though nature might have accomplished that task some time before. Is it to be wondered therefore that I should appear before you with some little feeling of apprehension and trepidation. But I believe that I number here none but friends and I derive comfort in the thought that if anything should really happen to me, physically or mentally, I can be taken care of, can be given first aid and emergency treatment and if need be, can be examined authoritatively and declared "non compos mentis."

I have selected as the subject of this address, one whose labor and achievements are closely allied to the activities of the medical profession, one whose work has benefited your learned and exalted calling in a signal manner, whose friends and staunchest admirers as well as greatest detractors and enemies belonged to the medical profession but who himself preferred to remain unto his dying day a chemist, feeling that in that less exalted professional domain he might accomplish his work with the quietude, the concentration and the methodic atmosphere to be found in the laboratory.

I do not know that there is anything new that I can tell you concerning the great man, whose life work and incomparable achievements I am to dwell upon. I am sure that most of you, if not all of you, have read and reread all that has been written about him, but I firmly believe that in this age of materialistic supremacy, at a time when humanity, still reeling under the shock of the greatest war that the world has ever witnessed, has become to a certain extent pleasure mad, seeking every new form of entertainment that human invention can devise, from the raucous tones of a jazz band to the thrill to be obtained by trying to cross the Atlantic or the Pacific in aeroplanes, under most forbidding circumstances, it is wholesome, salutary, inspiring, illuminating and mentally refreshing to review, were it only briefly, what Louis Pasteur, the great French scientist, has done in his great humanitarian efforts to lessen the sum of human suffering, loss of life, to blaze the trail for future discoveries and experiments and to earn the title of one of the

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greatest benefactors that humanity is indebted to.

The life of Louis Pasteur is essentially that of a man who through sheer will power, force and mental determination never swerved a single moment from the path that he had chosen and which he knew would lead to the goal that he had set himself. He had made up his mind while still very young that he would dedicate his life to the service of humanity, that he would do something that would help his fellow men, would increase their material well being and he unflinchinlgly, faithfully and unsparingly devoted himself to that great and noble ideal. Never did modern knight buckle on his armor and unsheath his sword in a holier or nobler cause, and never were battles fought with greater tenacity and faith in his ideals than those that the great man of science was called upon early in his career to fight, and bring to a successful and victorious termination.

A Christian, a firm believer in almighty God, a worker, a man of high and exalted ideals, Pasteur was none the less endowed with that sane, practical, cold blooded and scientific turn of mind which the laboratory student and investigator must possess to become successful. Morally, spiritually and physically he was fitted to carry out the great and humane work which has shed so much lustre upon his name and upon that of his native country, France.

Born at Dole, in the Province of the Jura, in a mountainous and picturesque section of France near the Swiss border, in 1822, Pasteur's early life was a rather uneventful one. As his most eminent biographer and son-in-law, Mr. Rene Vallery Radot, has truthfully said, Pasteur was not an infant prodigy. Unlike the average human genius, of whom it has so aften been said that he was born with the mark of genius stamped upon his features, Pasteur as a boy revealed none of the traits which later on brought him fame and immortality. He was a strong wholesome boy, studious to a point and enjoying fully the amusements which his comrades and himself would indulge in.

His father, a retired army officer of the Napoleonic regime, one of those famous "demi solde" or half pay veterans of the Grand Army that Balzac has so vividly described and written about, and his mother, a quiet, gentle, sweet and loving soul, brought him up at Arbois, where the family had moved some few years after his birth, and where his father conducted a tannery. In the midst of a household where peace, order and discipline prevailed, under the spiritual and refined influence of Christian teachings, Pasteur grew up to manhood, devoted to his father, his mother and his sisters. This wholesome and early influence in his childhood days proved very helpful to him in later life, as he stated time and again. It equipped him for the great battles which he was about to wages and from which he emerged victoriously for the greater good of humanity at large.

The great and cherished ambition of the father of Pasteur was to have his son become a professor at the college of the little city of Arbois. It was not an overweening ambition. It was typical of the splendid man who was the father of the great scientist. The older Pasteur would have been perfectly satisfied and happy had his son, as a result of his studies in Paris, been appointed to a mere and humble professorship at Arbois. He did not know at the time that fate had decreed otherwise for the greater renown of the family and of the world of science.

Pasteur soon evinced the qualities of mind and heart which later on brought him success and everlasting fame. He was above all scrupulously honest with himself and with others. He was a very harsh and relentless judge of everything that he undertook or did and never allowed himself to be carried off his feet by that which would not constitute, in the last analysis, an apparent success.

At the age of 20 he successfully passed his examinations for admission to the celebrated Normal School at Paris, but he was not satisfied with the number given his paper. Out of 22 candidates he ranked fourteenth. Dissatisfied with this result and feeling that perhaps he was not fully prepared for the higher course of studies which he intended to pursue he decided that he would study, or put in an additional year, and present himself a second time for examination. He ranked fourth in this second attempt and felt that he was then fully qualified to take up his studies in the great school, the cradle of so many of the most illustrious men that France has given to the world. I have mentioned this at length because it is characteristic of the thoroughness with which he undertook and carried out his later work.

While at the Normal School he conducted his early experiments in the realm of crystalline reactions and solutions which brought about his great discovery of molecular dissymmetry and which opened the way for his subsequent and more important discoveries in the kingdom of the infinitesimally small germs, microbes and bacteria. With his usual scrupulous and thorough method, he checked and rechecked the various phases of his discovery and only acquainted his professors with the result of his work after he had convinced himself beyond a doubt that he had really made a world startling discovery.

Always in quest of further and fuller knowledge in the field of biological and chemical research, Pasteur discovered that fermentation was a chemical process due not to spontaneous generation as scientists had previously and definitely proclaimed and asserted, but to small, infinitesimally small organisms, which if properly isolated and done away with would prevent the chemical transformation and pollution which fermentation would very often create. The discovery was of priceless value and once and forever set at naught the theory of spontaneous generation. It enabled the great scientist, who was then dean of the faculty of science at the University of Lille, at the age of thirty-two, to prescribe and establish the necessary methods for the preservation and purification of beer, alcohol and the other distilled products that the northern section of France manufactured in large quantities.

His method of sterilization was later on applied to milk and wine. By heating up wine to a certain degree he proved conclusively that he could free it from all obnoxious principles and could prevent fermentation and decomposition. The wine industry of France hailed him as a savior.

By that time, Pasteur, like all great men, had incurred the enmity of some of the great academic minds of his country, Foreign chemists and scientists of renown in other lands scoffed at the methods and discoveries of this young chemist whose ideas, of a startling and revolutionary character, they did not approve of. An attempt was made to show that his sterilization process was hurtful to the taste and flavor of wine. The accusation was a serious one. If substantiated it would nullify the value of his discovery. Pasteur calmly and composedly called the scoffers together. He placed in front of them ten glasses of wine, the contents of five of which had been sterilized, while the wine in the other five glasses had been left untouched and as drawn from the barrel or the bottle. It was found that the sterilized wine had absolutely the same taste as the unsterilized wine and that its flavor or "bouquet" as real connoisseurs call it, its main quality therefore had not been the least impaired by the purifying and germ killing process which Pasteur had applied.

It was his great pleasure, coupled with a little innocent and justified malice, to confront his most persistent and virulent enemies with the inaneness of their assertions or to refute in most convincing fashion their calumnies or skepticisms. By a one vote majority he was made a member of the Academy of Medicine of France, he

who was not a doctor. It was plain to him and to his friends that some of the great leaders in the medical profession did not approve of his methods and of their results. Some of them were actuated by professional jealously pure and simple; others had preconceived and well settled scientific ideas and principles which they felt should not be transgressed upon. Always courteous and considerate but cool headed, dignified, calm and firm, Pasteur undertook to convince them that they were wrong. He was accused of being actuated by deep religious principles when he announced in most positive fashion that the theory of "spontaneous generation" was a scientific fallacy. Pasteur replied as follows to the accusation:

"Had I discovered, in the course of my studies and research work, that matter alone, inert matter, can produce a live cell or of itself bring forth a living organism, I would unhesitatingly come here in this very amphitheatre and proclaim and announce my discovery with honesty and with legitimate pride. And if further urged to do so, I would say: This is a scientific fact, an undeniable one, spontaneous generation does exist and I am sorry for those whose religious beliefs are hurt thereby. Today with the same legitimate pride and assurance I say to you—and I defy any of you to prove that I am wrong—that the doctrine of spontaneous generation is exploded, that it is a mere chimera, as conclusively shown by scientific researches of the most precise character. And I further add: If this discovery clashes with the philosophical, political or utilitarian views of my colleagues, or of any of you, I cannot help it." And the great man, who was as good a Christian as he was an eminent scientist further stated in one of the many verbal arguments that he would have to enter into with his doubting colleagues. "In each of us there are two men: one, the scientist, who is guided and governed by nothing else than by observation, detection, experiments and reasoning, the man who wishes to know, to understand and fathom the secrets and the forms of nature; the other, the man of traditions, of faith or of doubt, the sentimental man, the man who weeps over his departed children and dear ones and who hopes that he will see them in the other world although he cannot prove this scientifically, the man who refuses to believe that a human being dies as a mere animal does, or as mere plants or infinitesimal organisms of life disappear and sink into everlasting chaos. The fields of science and of religion are separate and distinct. Woe to the man who tries to have one encroach upon the other. Human knowledge in its present condition is too imperfect to accomplish that result."

Thus the great man most admirably summed up the creed of his life, the great and guiding principles which he never swerved from throughout his laborious and fruitful existence. Pasteur was a Catholic, but a liberal minded one, and he never at any time allowed his religious beliefs to interfere with the results of his scientific discoveries. To him there was nothing incompatible between a religious mind and a scientific one. Because of his great and profound religious ideas he felt urged and encouraged in his efforts to aid, comfort and alleviate suffering humanity. His one predominating thought was to accomplish work that would prove beneficial to his fellow men.

The great sterilizing process that he discovered was used to purify the food so essential to humanity in the cradle—milk. Think of the many young lives that he has saved through his wonderful discovery, the result of patient and laborious efforts. "Pasteurization," as a word, has become synonimous with sterilization and purification. All the large dairies, throughout the world to-day, have their Pasteurizing plants. Pure unadulterated milk is given our children because of the wonderful discovery of this great man of science. Drinking water is extensively pasteurized and made free from contagious or infectious

germs. Think also of the services, of an incomparable order, rendered surgery through the process of sterilization. The great Lister, the foremost surgeon of the day, wrote to Pasteur that his sterilization method had saved hundreds of lives, which formerly were snuffed out because of the lack of proper prophylactic and germ killing facilities.

Pasteur was next called upon to determine the cause of a disease which affected silk worms and thereby threatened seriously one of the most thriving industries of France. In vain he stated that the field was one that he was not familiar with. One of his former professors who had suggested that he take up the work, wrote to him as follows: "You say that you know nothing about silk worms and their diseases. So much the better. You will thereby grapple with the problem without any of the preconceived ideas on the subject."

Through months of patient, steady and unrelenting scientific observation and experimental work, Pasteur wrestled with the well nigh insoluble problem and finally discovered and prescribed a method whereby the contaminated eggs laid by the female butterfly could be sorted out and destroyed before they could destroy or contaminate other eggs prior to the evolutionary cocoon stage. Millions of dollars were saved thereby, and the process is now being used in every section of the world where silk worms are raised and where the silk industry thrives.

At this stage of his life, Pasteur's health failed him. The good man had taxed his physical and mental strength to the straining point and as a result he suffered a stroke of paralysis which threatened to cut short his glorious career. Pasteur's love for his country, his intense patriotism were amply demonstrated at this time. Thinking that he was about to die he said to his friends: "I regret to die just now. There were better and greater services that I could have rendered my country."

As a scientist, a man whose intellectual faculties were concentrated upon problems of an exalted and humanitarian character, Pasteur abhorred war. As he stated time and again: "The children of men have been brought into this world to love one another and not to exterminate one another." But like all great men Pasteur believed in his country first, second last and all the time and when the Franco-Prussian war broke out, with a saddened heart but with patriotic fervor, he told his most promising students who had been called to the front and who had stopped to bid him "au revoir," that the highest duty a man could perform, one that primed every other, was service in the defence of the native soil.

When war was over Pasteur with redoubled courage and faith in his work resumed his research work in the field of bacteriology. Having discovered and finally isolated the bacillus of chicken cholera he conducted a series of experiments through which chickens were rendered immune by the inoculation of an attenuated form of the very virus which usually proved fatal to them. He fought fire with fire, if I may so express myself, and germs with germs, and thereby laid the foundation for his great immunization process.

Charbon at the time was a disease that levied a heavy toll upon the cattle and sheep of France and other countries. Pasteur was asked to isolate the bacillus or germ of charbon. He not only did so but likewise prepared a serum which he eventually and triumphantly demonstrated would render immune the sheep or cattle in which it was injected. This great experiment was conducted at Melun, not far from Paris, on a large and well stock farm. The foremost veterinarians, biologists and scientists of the day had been convened and some came fully convinced that Pasteur would fail in his demonstration. Sixty sheep had been set aside for the experiment. Twenty-five of them were in-

oculated with two doses of the attenuated virus or serum, given at twelve and fifteen days intervals. Shortly afterwards these 25 inoculated and presumably immune sheep together with twenty five other sheep which had not been vaccinated were given several injections of virulent harbon germs. The sheep that had not been inoculated with Pasteur serum died each and every one of them of the dread disease and the twenty-five serum injected ones weathered the first mild symptoms of the malady and not a single one of them died. A sure cure for animal cholera had been found, one that caused the name of Pasteur to be heralded and proclaimed throughout the world with gratitude and praise.

But the crowning achievement of the great scientist's wonderful and fruitful life was his discovery of the bacillus or germ of hydrophobia and as a consequence thereof the manufacture and preparation of a serum which from that time has saved thousands of human lives and has enabled man to cope successfully with a disease of a most hideous and soul torturing nature, one which was formerly looked upon as being a necessarily fatal one. In finally isolating and using for preventive purposes the dreaded virus or bacillus of hydrophobia Pasteur gave further evidence of the ingenuity and alertness of his mental power of observation and detection. He had noticed that hydrophobia was a disease which had its seat or center in the nervous system. It occurred to him therefore that his efforts in the discovery of the elusive germ should be directed to the very center of the nervous system, the brain. To locate and isolate this germ in the gray matter of an affected dog was not an easy task, and even after the bacillus had been detected and segregated, as it were, the next problem that confronted him was how to prepare a serum of an immunizing character. Tests were made on the brain matter and marrow of rabbits and various animals and finally a proper medium found wherein the attenuated virus could be preserved and kept to its highest degree of efficiency.

Pasteur's biographers have told us of the great mental anguish, of the trying moments he went through, when he first tested his hydrophobia serum on a human being. A little Alsatian boy, Joseph Meister, was brought by his mother to Pasteur's laboratory on July 6, 1885, for immediate treatment. The case was an aggravated one. The child had been bitten by a mad dog fourteen times, once on the face. Some time had elapsed since the accident. Pasteur, with his usual modesty, had some little hesitancy in applying his remedy. He was in doubt as to whether his serum had been developed to its highest point of curative efficiency. He consulted his eminent friends and disciples, Doctors Roux, Vulpian and Grancher, and they at once pointed out to him that they had the utmost confidence in the efficiency of his serum and that it was his duty to try it upon the child. The sacred and magic word "duty" had the needed effect upon the scientist. He tenderly lifted the young boy in his arms, placed him upon a bed and had the serum administered. That night and the following day he watched with the mother by the bedside of the patient, anxiously leaning over him every now and then, to detect any symptoms of the dread disease, knowing full well what a great scientific battle was being waged. Weeks went by, weeks of great mental strain and nerve wracking anxiety, and finally little Meister was declared out of danger.

What a never to be forgotten event in the annals of medicine, in the field of modern therapeutics, in the world at large, was this discovery of a cure for hydrophobia. How everlastingly indebted to Pasteur humanity stands today for a scientific achievement of unparalleled grandeur and far reaching effect. Had Pasteur accomplished nothing else, in the course of his wonderful and humanitarian career, his name would be found today on the lips, and his memory enshrined in the hearts of

the thousands of fathers and mothers whose dear ones after being bitten by mad dogs that roam throughout our cities and our populous centers, have been saved by the timely application or injection of a merciful serum. The Pasteur treatment is now in use in every section of the globe. Pasteur Institutes, patterned largely after the one which stands today in Paris as a lasting and enduring monument to the great man, have been founded and established in all the larger cities of the universe. The name of Pasteur is the one which invariably comes to the mind and lips of those who accidentally and when they least expect it are set upon and bitten by vicious dogs or other animals affected with rabies. Formerly a bite from a mad dog meant usually, after an incubation period of lesser or greater duration, death under most distressing and heart rending conditions. Today, thanks to the wonderful discovery of Louis Pasteur, a positive cure can be effected in every case where the preventive treatment has been given in time. Surely the great scientist must have felt amply repaid for his struggles, labor, his studies and exhaustive researches, the time, the attention, the mental and physical efforts which he was called upon to exert in the course of his fruitful life, when he became convinced that he had found an infallible remedy for one of the most dreaded of human afflictions.

The great man died as he had lived, a Christian, a patriot, and a servant of humanity. There never lived a man whose sense of humanity and of duty, whose unflinching will and spirit of perseverance were of a higher or more exalted order.

Today, in Paris, there are two shrines, two mausoleums that contain the remains of two of the most illustrious sons of France. One is a huge brown marble sarcophagus, under the dome of the great Invalides, within which is entombed all that is left of the greatest general that the world has ever known, Napoleon Bonaparte. The other one is a smaller and less pretentious sarcophagus, erected reverently and affectionately in the crypt of a great medical and scientific institute. There are just two simple dates upon it—1822-1895. Three words are written on the arch which surmounts the portals to the crypt: "Ici repose Pasteur," "Here lies Pasteur." It is a most impressive and wonderful burial place. Four trumpeting angels, symbolic of Faith, Hope, Charity and Science, seem to proclaim his fame to the world at large. There is no necessity for it, for within the heart and the mind of humanity at large Pasteur's name and memory will live forever. He has done so much for humanity that humanity cannot forget him.

SOME COMMON CAUSES OF UTERINE BLEEDING*

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Both the conception and the treatment of uterine bleeding have undergone radical changes within the last thirty years. The new science of endocrinology, the development of the various glandular extracts, the employment of basal metabolism tests and other refinements of diagnosis, the application of irradiation to gynecology, these and similar improvements have completely changed our old ideas and methods. But confusion still exists. Uterine hemorrhage is still being treated too casually in some instances, too radically in others, and the tendency is still common to regard it as a disease in itself rather than as a manifestation of pathology which is not of necessity uterine in origin.

Because bleeding from the uterus is at certain times, and in certain quantities, both normal and physiologic, there is a rather natural tendency on the part of both physicians and patients to make light of an excessive or irregular flow. Neither menorrhagia, that is, prolonged or excessive bleeding at the menstrual epoch, nor

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metrorrhagia, that is, bleeding of any degree at other times, is ever normal, and the latter, particularly, should always be looked upon as evidence of real pathology.

If we recall the various factors which are concerned in menstruation, or normal uterine bleeding, the unwisdom of jumping to the conclusion that all abnormal bleeding is due to intrauterine pathology will at once be apparent. The uterus and its endometrium are little more than the creatures of the ovaries, and it is the ovaries, plus the nervous system, chiefly in its vasomotor aspect, which furnish the stimulus without which menstruation cannot occur. Even the local factor supposed to be present in the endometrium for the purpose of diminishing the normal coagulability of the blood that the monthly flow may occur, is merely given off there; its point of origin is the ovary. It is obviously erroneous, therefore, in considering the causes of uterine hemorrhage, to lay the entire emphasis on anatomic pathology, since physiologic function is quite as likely to be at fault.

In all of these cases a carefully taken and interpreted history is of the utmost importance. The patient's age, the familial tendencies, her own previous history of illnesses and operations, all these may shed light on the condition. Naturally the menstrual history must be considered thoroughly; the age of onset, the type of period prior to the present trouble, the duration and amount of the flow, the presence of clots, the existence of dysmenorrhea, all should be carefully inquired into. The patient's own norm should always be sought; menstruation differs in different individuals, and it is not the duration or the quantity of the hemorrhage which matters so much as the variation from the previously established type of period. A possible exciting cause should always be sought. A general examination is necessary to eliminate constitutional conditions, and, except in young girls, a thorough pelvic examination should never be omitted. If it is unsatisfactory, or if there is doubt as to the diagnosis, examination under anesthesia, and diagnostic curettage, if necessary, should follow promptly. Only by such a detailed study as this can the proper perspective be obtained and an accurate diagnosis be arrived at.

It is not my intention to include in this paper a consideration of the various hemorrhages of pregnancy; if the history of pregnancy is clear, as it usually is, these carry their own diagnosis. I might say, however, that it is always well to bear in mind in the married woman in the childbearing age that the bleeding may date from an abortion so early as to have been entirely unsuspected by the patient. I have often seen such patients, sometimes with evidence of a somewhat hypertrophied or subinvoluted uterus, sometimes with no local evidence beyond a bogginess and general lack of tone, in whom diagnostic curettage revealed, usually only under microscopic examination, fragments of placental tissue or decidua. In such cases, as the hemorrhage is due solely to the presence of a foreign body, curettage is curative as well as diagnostic.

In searching for the causes of uterine bleeding, purely local conditions, though not very common, must not be overlooked. Thus in the vulva and vagina old syphilitic lesions, ulcerations from pessaries, inflammations of Skene's glands, and similar lesions, sometimes obvious, sometimes so minute as to be found only after careful search, may be responsible for bleeding, usually in the form of a metrorrhagia. Nonmalignant lesions of the cervix, such as follow obstetrical injuries, with resulting infection, erosion and eversion, cyst formation, ulceration and similar sequelae, may also cause an irregular bleeding or staining, particularly as they are so often associated with hyperplastic conditions of the uterine mucosa and consequent venous congestion.

Since the gland changes upon which the diagnosis was once based are now proved

to be purely physiologic in character, chronic endometritis is no longer regarded as a frequent cause of uterine hemorrhage. There is, however, a type of endometritis, the so-called polypoid or fungoid type, which may give rise to quite profuse bleeding. Most important of the true endometrial affections, however, is hyperplasia, which is always associated with more or less hemorrhage. It may be encountered at any period of menstrual life, though it is most frequent at the menopause or at puberty. Its exact origin is still unknown, but there is reason to believe, as I shall point out later, that it is always associated with some ovarian dysfunction. The microscopic findings are uniformly characteristic, both in mucosa and stroma, and thromboses, venous congestion, and even extravasation of blood into the tissues may be present in extreme cases.

Arteriosclerosis of the uterine vessels is responsible for only an occasional case of abnormal bleeding. When it does occur, it usually follows repeated pregnancies or puerperal infection, and age seems to play no part in its production. Decidedly more frequent, however, is the condition described, for lack of a better term, as uterine insufficiency, in which the mucosa is normal, and the pathology is quite definitely in the mesometrium, the essential lesion being either a pathologic defect of the uterine musculature, or an undue excess of connective tissue over muscle structure. It is a common cause of bleeding in young girls, in whom full development of the organ has not taken place; in adult women who have had repeated pregnancies; and in women near the menopausal years, when, in my opinion, loss of the normal rhythmic contractile power of the uterine musculature is also a factor in its production. In every case, failure of the ovarian hormone is probably either a contributing or a primary cause.

Obstetrical injuries are frequently responsible for abnormal bleeding, and in such cases the diagnosis is usually self-evident. Retrodisplacements of the uterus which are in any way marked naturally cause a mechanical interference with the circulation in the pelvic structures, so that a constant state of venous congestion results. The bleeding may be particularly profuse when prolapse is present and the entire weight of the uterus falls on the broad ligaments; in such types these structures may exhibit marked varicosities.

Polyps, either of the cervix or of the uterine body, may give rise to furious bleeding, usually of the metrorrhagic type, though they may be so small that they cannot be detected except by the curette. Their effect is always that of a foreign body which the uterus is attempting to expel. Fibroids also are a frequent cause of bleeding in women over thirty, and they are peculiarly likely to be present in the unmarried or the sterile woman. Their size has nothing to do with the amount of the hemorrhage; I have seen patients who were almost exsanguinated by bleeding from a submucous growth no larger than a nut. The adenomyoma, that type of fibroid which contains endometrial elements and which infiltrates the uterine musculature and adjacent tissues, instead of developing as a discrete tumor, is often responsible for prolonged and profuse menorrhagia, which is frequently associated with a characteristic grinding pain, due to swelling of the areas of endometrium within the uterine wall.

Always in elderly women, and particularly in women who have passed the menopause, metrorrhagia, if no more than a spotting after coitus or exercise, demands a prompt and thorough investigation. It may be due to senile atrophic changes in the vaginal or cervical mucosa, or to a mild senile endometritis, but in the majority of instances it is due to malignancy. Indeed, metrorrhagia demands investigation at any age. Malignancy is not frequent in young women, but it does occur, and the possibility should always be borne in mind. Diagnostic curettage should be done

promptly, with microscopic examination of the scrapings, and if the cervix is at all suspicious, a section should be removed from it also for laboratory study. Profuse bleeding is not an early symptom of cancer, it is a very late one, and we shall never hope to better our mortality until we learn to interpret even the slight initial signs which that most treacherous of all diseases exhibits.

Tumors within the tubes usually give rise to uterine bleeding, and any type of salpingitis may exhibit this symptom, but it is by no means constant. Amenorrhea is rather more frequent if the tuberculous type is present, especially in the late stages, and I agree with Novak in his conclusion that excessive bleeding always means that the local disease is more pronounced than the general. Simple cysts of the ovary rarely affect menstruation, but the multilocular type, papillomata, dermoids, and malignant growths may be responsible for considerable hemorrhage.

The tendency in recent years is more and more to attribute all uterine hemorrhage, beyond what can be traced to definite local pathology or to constitutional conditions, to some endocrine dysfunction, usually ovarian. A complete consideration of the subject is obviously impossible here, but I would remind you that the simplest way of proving the validity of the theory of the ovarian control of menstruation is to remember that oophorectomy results in an automatic cessation of menstruation, no matter how normal the uterus and its endometrium may be. Dysfunction of the other endocrine glands, particularly of the thyroid, as evidenced by studies in metabolism, may also play a part in the production of uterine hemorrhage, but the ovary is mainly responsible. The function of the pituitary, the suprarenals and the pineal body is still obscure, but the latter at any rate, is unimportant.

Endocrine disturbances may produce abnormal bleeding at any era of functional life, but they are most common at puberty or the menopause. Usually local pathology is absent, except for the hyperplasia I have already mentioned. It should be emphasized, too, that this hyperplasia is the result of ovarian dysfunction and is not primarily a uterine condition. Curettage does not correct it, as it does the polypoid type; the endometrium which is regenerated is no more normal than that which was removed, and it is plain that although the effect may have been temporarily eliminated, the basic cause is still operative. The whole subject of endocrinology is still largely in the realm of theory, but one point, at least, is very clear, that physiologic pathology, as evidenced in a disturbance of the glands of internal secretion, may quite as frequently be the cause of uterine bleeding as anatomic pathology.

Constitutional conditions should never be overlooked. Especially in young girls excessive menstruation is often due to faulty habits of life, overwork, lack of exercise, constipation, and similar bad hygiene. Any occupation which entails incorrect posture, long standing or heavy lifting, and which predisposes to chronic pelvic congestion, may be an exciting cause. Diseases of the circulatory system are sometimes responsible, especially if there is a history of previous rheumatism or valvular heart disease, and renal disease, particularly if accompanied by high blood pressure, must always be considered. In young girls, and sometimes in older women, chlorosis and anemia may set up a vicious circle, in connection with the uterine hemorrhage, by which one condition aggravates the other. Liver disease with portal stasis, occasionally tuberculosis, though amenorrhea is then most usual, and some of the infectious diseases, notably influenza, may also be causes, as may syphilis, drug addiction and chronic poisoning. In all of these complications the entire treatment should be directed to the constitutional disease. This is particularly important in young women, in whom I have more than once seen uteri removed for ex-

cessive bleeding, with no evidence of local pathology, when either constitutional conditions or endocrine dysfunctions were the real source of the trouble. Psychic influences are responsible for an occasional menorrhagia, but all other causes should be eliminated before that diagnosis is made.

It has been possible, because of the limitations of time, to do little more than recite the principal causes of hemorrhage from the non-pregnant uterus. I have, however, tried to emphasize the point that proper diagnosis of the condition involves considerably more than a search for purely local pathology. And in closing, I may say briefly that the type of treatment should never be decided upon until the etiology of the hemorrhage has been established. The curette is not a panacea. In some instances it does good, in others it does none at all or actual harm, and its field in uterine hemorrhage is largely diagnostic. What the treatment is to be, general measures, drugs, glandular therapy, irradiation, curettage, or surgery, can only be logically decided when the underlying pathology, of which hemorrhage is merely the symptom, has been sought for and definitely identified.

PELLAGRA AMONG CHRONIC ALCOHOLIC ADDICTS.—Klauder and Winkelman, report on a study of 100 cases of pellagra. With few exceptions, all were chronic alcoholic addicts. Of the 100 patients, seventy-one were men and twenty-nine women, ranging in age from 25 to 79 years. The conclusion seems warranted that alcoholism in many instances plays some role, either predisposing or etiologic, in the causation of pellagra. The importance of this role has apparently not been generally recognized. The authors failed to transmit pellagra to a monkey injected with the blood and spinal fluid of patients with pellagra, supplemented by a minimum diet and the ingestion of alcohol. From a pathologic point of view there is apparently an intimate association between alcoholism and pellagra, especially in view of the fact that in other conditions in which alcohol is a factor, e. g., tuberculosis, similar pathologic conditions are absent. It is interesting to note that the pathologic manifestations of pellagra are not inflammatory, but resemble what is seen in toxic states with known etiology.—J. A. M. A., 89:1928.

THYROIDECTOMY.*

JOHN C. CULLEY, M. D.,
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The development of thyroid operation during the past forty-five years owes much to three of America's greatest surgeons, Dr. W. S. Halstead, Dr. C. H. Mayo, and Dr. Geo. Crile. The first of these planned a most refined operative procedure. He established the truth of the law which states that a transplant of an endocrine gland will live only if a physiological need for it is created. This law is known by his name. His contribution to hemostasis by the use of forceps in 1879 and his pioneer research work with local anesthesa did more than that of any other man to give it its prominence in surgery today, thus doing a great deal toward robbing thyroid operations of their danger.

It was Dr. Mayo who supplemented Kocher's unilateral with a bilateral procedure. Dr. Crile taught us the value of doing toxic goiter operation amid surroundings presenting no disturbing element, with a combined anesthesia which has all the advantages of a local and a general with none of the dangers of the latter.

The time limit prevents me giving credit to all those who have contributed so many of the cardinal principals of goiter surgery. According to Bartlett, whose latest work has given me most of the data embodied in the foregoing, four factors are to have a major share of the credit for the high degree of perfection to which this branch of surgical therapeutics has developed: (1) General anesthesia; (2) antisepsis and asepsis; (3) modern hemotasis; (4) local anesthesia.

In Halstead's own words, "The extirpation of the thyroid gland for goiter typifies perhaps better than any other operation the supreme triumph of the surgeon's art. A feat which today can be accomplished

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by any really competent operator without danger of mishap and which was conceived more than one thousand years ago might appear an unlikely competitor for a place in surgery so exhalted."

"There are operations today more delicate and perhaps more difficult but they have followed naturally and easily in paths made clear for them. But is there any operative problem propounded so long ago and attacked by so many which has caused so much thought and endeavor and so many lives before its ultimate solution was achieved? And further, is there any problem in surgery having required for its solution such intrepid throbbing and prolonged striving of the world's greatest surgeons which has yielded results so bountiful and so adequate?"

It is not the purpose of this paper to present the whole problem of goiter, nor will I attempt to discuss the symptommatology in full. Patients with a fully developed exopthalmic goiter do not present any great diagnostic problem. A most excellent paper on diagnosis of exopthalmic goiter appears in the A. M. A. Journal of May 7, in which Kessel and Hyman state that: "The classic triad of exopthalmos, goiter and tachycardia, to which may be added the tremor and elevation of basal metabolic rate, is usually unmistakable."

The thyroid, one of the most important glands of internal secretion, has as its principal and probably only function the elaboration and secretion of thyroxin.

An idea of the importance of the thyroid gland may be gained by considering the amount of blood which passes through it. Chaney points out the fact that while it weighs but forty-five grams, all of the blood in the body can pass through it in one hour. It has twenty-eight times the circulation of the head, thirty-four times the circulation of the brain, and five and one-half times the circulation of the kidneys. Yet, in spite of this great blood supply, the amount of its internal secretion poured into the blood stream per day is very small. A normal individual must have from twelve mg. to fourteen mg. present in the body at all times, exclusive of the thyroid. Therefore, it can clearly be seen that one of two abnormal conditions can exist—either an over activity of the thyroid, producing an hyperthyroidism, or the opposite, an under activity of the gland, producing an hypothyroidism. Simple hyperthyroidism can be produced by giving thyroxin and is seen clinically in adenomatous goiter with hyperthyrodism. In exopthlmic goiter we have more than a simple hyperthyroidism. It is a hyperthyroidism plus a dysthyroidism.

If we are dealing with hyperthyroidism it is certain that the goiter is either of the exopthalmic type or is a toxic adenoma. If hyperthyroidism does not exist then we have either a colloid goiter or an adenoma without hyperthyroidism.

Diseases of the thyroid gland, according to Plummer, may be divided into the following types: (1) Diffuse colloid goiter; (2) adenomatous goiter without hyperthyroidism; (3), adenomatous goiter with hyperthyroidism; (4), exopthalmic goiter; (5), myxedema; (6) cretanism; (7), myxedema of childhood; (8), thyroiditis; (9), malignant diseases of the thyroid.

In order to determine the presence of hyperthyroidism we must keep in mind several special characteristics: 1. An increase in appetite; with 2, a decrease in weight; 3, decreased tolerance to heat over a rather prolonged period; 4, a weakness in the quadriceps muscles. There are many other minor points of importance but the above are especially the ones to be noticed.

Each of the types of goiter which I have mentioned demand special treatment, and every case to my mind is a law unto itself. However, the ones which I wish to consider here are the toxic adenoma and exopthalmic goiter.

The surgical treatment of these two conditions does not begin nor does it end with the operation itself. The successful termination of these conditions depends largely upon the method of approach, for the patient must be made to have implicit faith and confidence in those to whom she has placed her life. The history taking, the routine examination, preparation for operation, and in fact every step, must be made in such a manner as to instill a feeling of safety and well being in the patient.

As soon as the diagnosis is made and the patient has fully made up his or her mind to go through with the operation, they should be put to bed and absolute rest for a period of ten days to four weeks is to be enforced, depending entirely upon the condition of the heart, for, after all, the success or failure of thyroidectomy rests upon the ability of the heart to withstand the strain placed upon it. For this reason, and this alone, is the patient placed in bed for a prolonged period.

However, it is very important for the patient to be allowed to get up and walk about for a time each day for four or five days preceding the operation. This will not only give the operator an opportunity to see what effect this pre-operative treatment has had upon the heart but will prove to the patient that he is really stronger and can withstand an operation. During the period of rest a careful check should also be made upon the kidney function.

The pre-operative diet should be liberal, though highly stimulating foods are excluded. Water in large quantities is of foremost importance. The daily fluid intake must be as high as three thousand cc. In aggravated cases with persistent nausea and vomiting as much as seven thousand cc. are administered. If these quantities cannot be taken by mouth normal saline solution is given by hypodermoclysis or proctoclysis. To this solution may be added a 3 per cent glucose. As a routine an ice cap should be placed over the heart. For improving the myocardium and the kidney function tincture digitalis should be administered in two cc. doses at intervals of four hours for eight doses. If this does not have the desired effect another course may be given, the effect of each dose being carefully observed.

Rest is essential, and it has been my custom to give luminal sodium at bed time to insure against insomnia. To protect the patient from a temporary thyroid deficiency subsequent to the sudden withdrawal of the gland secretion, thyroid extract, grs. 2 may be given the night before the operation and the dose repeated the following morning. To my mind the most important step has been the following of Plummer's suggestion that Lugols solution be given for a week or ten days preceding the operation and continued for several days following. Dose is ten to fifteen drops three times a days. Following the operation, if the patient is too nauseated or objects to taking it by mouth, Lugols may be given in the proctoclysis.

For the operation itself I prefer local anesthesia in extreme cases, at all times, however, being prepared to combine with it nitrous oxide and oxygen. One-half hour before the operation one-quarter morphin and atropin one-150th are administered by hypodermic. Some of my patients have complained that they could not stand morphin. To these I have given an H. M. C. with very happy results.

At the present time following Crile's custom most of the severe exopthalmic goiter cases are operated on in the patient's room, under local anesthesia plus analgesia. So far, in none of my cases have I done this and in no case have I noticed that the moving of the patient to the operating room or the sight of the operating room itself has had any effect whatever upon the patient's nervous system.

During the course of the thyroidectomy the perfect blocking with local anesthesia is a very necessary factor in the maintenance of good analgesia. These patients

are hypersensitive to external stimuli and therefore must be approached with great caution. The anesthesist should attempt to secure their co-operation by means of suggestion rather than command. He must interpret the respiration of the patient and the expression of his eyes in order to judge accurately the exact stage of analgesia. Again, there must be perfect co-operation between the surgeon and the anesthesist.

The following technique is used in producing local anesthesia: Two solutions are used. (1) 200 mils of ½ per cent procain solution to which is added twenty-five drops of a 1 to 1000 adrenalin solution. (2) 100 mils of a 1 per cent procain to which is added twenty-five drops of adrenalin. The patient is placed on the table, which is inclined about thirty degrees. A sand bag is placed beneath her shoulders and neck so as to bring the goiter prominently into view.

The soft tissues of the anterior portion of the neck are supplied by the anterior branches of the second, third and fourth cervical. The terminal branches, the auricular mastoid, transverse cervical, and supra clavicular, emerge at the posterior border of the sterno mastoid muscle. Anesthesia of this region may be produced by peripheral infiltration, but in order to obtain deep anesthesia the nerves must be reached at their emergence from the spinal column. This nerve blocking is done in the following manner: The line of skin infiltration for the cervical plexus is vertical and is determined by two points. Above, a point one finger breadth below the tip of the mastoid and below, a point five cm. lower down corresponding to the upper border of the thyroid cartilage. Three wheals should be made with a very fine needle at the upper and lower end of this line and in the center. Through these wheals by using a six cm. needle the spinal column should be encountered about five cm. below the skin.

An injection is made at the point of emergence of the nerve from the spinal canal, and then, as the needle is withdrawn, a fan-shaped injection of a 1 per cent solution is made. At least five cc. of this 1 per cent solution should be made through each one of the points of the injection. This is repeated on the opposite side of the neck. The patient will usually complain of slight pain when the needle strikes the bone, but if care is taken this should be negligible. Peripheral infiltration of the skin overlying the neck is now made through one of several wheals, the one-half of 1 per cent solution being used for this purpose.

The usual collar incision is then made, taking care to mark cross-ways of this incision at at least three points in order to make a perfect approximation in closing the wound. The pre-glandular muscles in most instances are divided in a line about one-half to one inch above the line of the skin incision. In small thyroids I never divide the muscles, but where the gland is very large and pulling upon it would be necessitated, I always divide the muscles between special clamps. This affords a wider field for operation, allows more thorough hemostasis and less discomfort to the patient by not necessitating pulling on the trachea. The right lobe is usually attacked first, and if at this point the patient complains of any pain the lobe itself is infiltrated. The superior pole with its vessels is clamped, ligated and then divided. The same is done at the inferior pole. This allows the thyroid to be pulled forward without any tugging on the trachea. Mouse-tooth clamps are then placed on the gland and as much tissue as desired is removed, the division being made between these forceps. Any return of symptoms following thyroidectomy for exopthalmic goiter is an indication that an insufficient amount of gland has been removed. While no one has been able to tell us exactly how much gland to remove, the amount left should in general be the functional equivalent of a normal gland. In hyperthyroidism this would mean that only a very small portion should be left. In all my cases I have endeavored to leave a very small portion

posteriorly in order to insure safety to the parathyroids and to the recurrent nerve. Enough is left laterally and anteriorly so as not to interfere with the nerve and connective tissue of the trachea. Both lobes and isthmus may be removed intact but it is my rule to remove them separately. The wound is then sponged and all bleeding points ligated. Closure is made with cat gut, care being taken to closely approximate all divided muscles. A cigarette drain is placed in the wound for three days, the skin incision being closed with metal clips.

Post-operative treatment: During the operation there is always a hyperhydrosis which leaves the patient's garments saturated with perspiration. These wet clothes should be removed and warm, dry ones substituted immediately after the operation. Because of this fluid loss, saline hypodermoclysis or saline and glucose by proctoclysis should be given. This will hasten the elimination of waste products and acidosis will be reduced to a minimum, while at the same time shock will be averted. The patient should be placed in a semi-sitting position with pillows banked up under each arm so that there will be no danger of turning. For the alleviation of pain morphin or codein should be given as necessary. The ice cap is replaced over the precordium. The diet for the first thirty-six hours should be soft and gradually increased as the patient's appetite begins to return. The second morning following the operation if the patient's condition permits an enema should be given. The dressing should be removed on the morning following the operation. The clips should be removed on the third day and the drain at the end of twenty-four hours.

Complications which may follow thyroidectomy are those affecting first the wound and second those affecting the organism. The former respond readily to treatment while the latter are often dangerous and sometimes fatal. The most frequent complication is the presence of serum in the wound. This condition is accompanied by a slight redness and induration about the site of drainage. Should this occur hot moist dressing should be applied and as soon as fluctuation occurs the fluid evacuated. The same is true of hematomata except in a case where oozing persists, the wound should be opened and packed. Infection should be treated radically by opening a portion of the skin incision, cleaning out the wound with mercurochrome or Dakin's solution and instituting free drainage. The complications affecting the organism are very few if proper precautions have been taken prior to and during the operation. When there is post-operative sign for need of cardiac stimulation tincture digitalis should be given as it was pre-operatively. If in the early post-operative period there is a loss of appetite or any lessitude, thyroid extract should be given in two grain doses three times a day until this deficiency has been compensated. Time does not permit me to enter into the post-hospital management of these cases, but suffice it to say that they should be under the care and advice of a physician for several months. In this way the patient can be advised as to amount of exercise, diet, etc.

REPORT OF CASE.

Mrs. A. S., white, female, widowed, aged fifty-six, occupation, housekeeper. Family history: Father died at the age of fifty from stomach trouble. Mother died at the age of seventy from paralysis. One brother died at the age of sixty from cancer of the stomach. Seven sisters, one died from goiter, one from pellegra, one from pelvic tumor, probably malignant, and the causes of the deaths are unknown but feel positive that one other had goiter. Only one sister living and she is in poor health on account of stomach trouble. Chief complaint, nervousness, shortness of breath, and, as a patient expresses it, "heart trouble."

Past history: Practically all the diseases of childhood and within the last few years, influenza, tonsilitis, and infected antrum. Tonsils removed in November, 1926, and on January 29, 1927, an abscess of the tooth resulted in infection of the antrum which was drained.

Present illness: Patient noticed an enlargement in the right side of her neck thirty years ago but paid no attention to it until 1918 when she consulted a physician. He put her on some form of iodid. As well as she can remember it was a syrup of iodid of iron. Within a few

weeks the enlargement disappeared and iodin was continued intermittently to the present time. The patient states that she has had several attacks of palpitation and has noticed a gradual reduction in her body strength. She has loss of appetite and within the last few weeks has begun to lose weight. Her usual weight is one hundred and forty-three pounds.

Physical examination: Patient weighs one hundred and seventeen pounds. She is five feet six inches in height. Her hair is slightly gray and lusterless. Her eyes are slightly prominent, skin of face and body dry and of a yellowish tinge. Throat normal, teeth in a very good condition. Examination of the chest was normal. Apex beat in the sixth inter space one inch to the left of the nipple line, showing an enlargement of the heart. All heart sounds normal. By ausculation over mitral area there were 120 contractions of the left ventricle, while radial pulse was only 90. The examination of the abdomen and pelvis, negative. Marked quadriceps weakness present as elicited by having patient step up on box. Blood pressure systolic, 120; diastolic, 70. On previous readings she states that her blood pressure varied from 110 systolic to as high as 180. Blood examination was negative. Examination of the neck showed an irregular mass in the thyroid region more prominent on the right and on palpation it was very nodular. On ausculation there were no thrills nor bruits. Laboratory examination of urine was acid in reaction, sp. gr. 1020, albumin and sugar, negative and one plus bile. Microscopically very occasional hyaline cast. I might state that on previous examination this patient had shown traces of albumin and many granular hyaline casts.

Diagnosis: Adenomatous goiter with hyperthyroidism. This patient was given the preoperative treatment as outlined above and following the technique which has previously been given, I removed both lobes and isthmus. Laboratory examination corroborated the preoperative diagnosis. The operation was performed on February 4, 1927. The post-operative convalescence was uneventful, patient leaving the hospital February 12. Pulse 82, respiration 18, temperature 98 3/5. This patient has reported every week and has shown a steady improvement. Present weight 140, skin moist and a good color, pulse 72, and she states that she has just begun to live again.

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DISCUSSION.

Dr. V. B. Philpot (Houston): A word about the technic. I think the easiest method of removing a goiter is the same incision as Dr. Culley made but by going through the gland directly, leaving as much as you want to leave (usually about a third I prefer to leave), and with clamps and ligating as we go, or clamp first and without tying anything first. In that way there is no danger at all of clamping or severing the internal laryngeal nerve, and in my opinion it is the easiest way to do a thyroidectomy. It is the way they do it in Rochester; it is a simple method; and there is less danger of doing the wrong thing.

VENEREAL DISEASE CONTROL.—John H. Stokes, reviews the status of the venereal disease control movement and discusses problems of prevention and treatment, research organization, and ethical and social collaterals. It is in the hope that the physician may become an active participator in the solution of these moral problems, which sometimes seem to lie across the path of direct medical solution of a venereal disease issue, that Stokes would urge all venereologists to participate in the social hygiene movement, to inform themselves on birth control and the family, to avoid cynicism and to have an open mind for ideals in the matter of sex ethics. The physician in venereal disease work is of necessity an advocate of birth control under medical direction. The Wisconsin experiment and Hall's study of it have shown that he can be a capable and even enthusiastic cooperator in the development of checks on marriage which tend to reduce the danger of transmission of infection within this most important of human relationships. It remains now to be seen whether the physician can be interested in other more social phases of venereal disease control, the more inspiring because the more constructive of character and the more expressive of idealism. Can he, for example, be made to tell the sincere and attentive student from the moral side of the tremendous wealth of personal knowledge of the sex habits and thinking of mankind which his work, like that of the priest, brings to his door?

ABSCESS OF LIVER.*

WITH CASE REPORTS.

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Liver abscess is of two principal varieties. First, that resulting from amebic infection, and, second, that caused by bacterial infection. Infection may be carried to the liver by several routes, the most important of which are: By way of the portal vein, the hepatic artery, the lymphatics, the bile ducts, and by direct continuity from an adjacent process.

Amebic Infection. This infection is carried to the liver from the bowels and probably by the portal vein.

Race. White people in the tropics are said to be more liable to amebic liver abscess than the natives.

Age. The majority of cases occur between the ages of 20 and 40 years.

Sex. Much more common among men.

Distribution. Amebic colitis is a tropical disease, but cases are not uncommon in this section of the country. In our clinic Dr. Lippincott in 1923 found amebic histolytica in the stools of 14 cases, which was 14.74 per cent of cases examined. In 1925, 2 cases, which was 1.42 per cent of cases examined. In 1926, 2 cases, which was 1.54 per cent of cases examined. Cases are also reported in patients living in the northern part of the United States.

Some cases of amebic colitis give a history of dysentery, but it is not uncommon to find positive cases who have had no bowel symptoms, as is illustrated by cases reported in this paper. If the lesions in the colon are in the lower part of it, bowel symptoms are likely to be present; but if the lesions are high in the right part of the colon, bowel symptoms are less likely to be present. Sérège has pointed out that the portal vein probably has two streams, one from the superior mesenteric vein which is distributed to the right lobe of the liver, and the other from the inferior mesenteric and splenic veins which is distributed to the left lobe. If this is correct, it would seem to indicate that infection is most often carried to the liver from the right half of the colon, as it is the portion of the bowel from which blood flows through the superior mesenteric vein.

Preceding amebic abscess, there is a hepatitis, probably due to damage to the liver cells by toxic products of amebic infection (Councilman and Lefleur). This gives rise to a slightly enlarged tender liver, and there may be a question as to whether or not suppuration is present. Rogers gives emetin in such cases, stating that if hepatitis alone is present, the emetin will cure it, thus differentiating hepatitis from abscess. However, complete recovery of cases of abscess have been reported to occur under emetine treatment alone.

Pathology. Amebic abscess may be multiple or single. The abscess cavity contains thick, reddish brown or chocolate-colored pus, with more or less of shreds of necrotic liver tissue. The surrounding liver tissue shows hepatitis. A fibrous capsule surrounds the abscess only in cases of long standing. The location is usually in the right lobe although occasionally a left lobe abscess is seen. The pus from the abscess may contain amebae, but often does not. It may contain bacteria which have developed as secondary infection, but it is often sterile. After the wound has discharged for a few days, amebae are more often found in the smear than at the time of operation.

Symptoms and Signs. First, are those which may be caused by pus concealed under tension wherever it may be located in the body; second, those especially referable to suppuration in the liver. The first group includes fever, chills or chilly sensations, sweats, aching extremities, malaise, fatigue, anorexia, digestive dis-

*Read before the Mississippi State Medical Association, Jackson, Mississippi, May 10-12, 1927.

orders, loss of weight and anemia. The blood count is usually increased, although in some cases it has been found normal. Those cases with secondary bacterial infection in the abscess will have very high counts. Fever is almost a constant symptom. It may be very high with chills and sweats, or very slight and intermittent.

The symptoms especially referable to liver suppuration are:

Pain in the liver region. It may radiate to the right shoulder, to the epigastrium, or the lumbar region, according to the location of the abscess.

Tenderness under the right costal margin or lower right lateral chest is usually present. The tenderness of the lateral chest region is best elicited by sharp, sudden pressure about the level of the 9th rib.

Enlargement of the liver, upward and downward, is present in all liver abscesses of any considerable size.

Edema of the lower right lateral chest wall, especially if abscess has come to the surface of the upper right lobe, is a very characteristic sign.

Cough, with rales, dullness and sometimes bronchial breathing at the base of the right lung. These symptoms are ape to occur in abscesses located on the upper surface of the right lobe.

Nausea and *vomiting* are not usually marked, but are likely to be present, especially in cases with abscess located on the under surface of the liver.

Jaundice is not a prominent symptom of amebic abscess but a sallow complexion with slight jaundice is usual. Jaundice is likely to be more marked if the abscess is located on the under surface of the liver.

Roentgen-ray and *fluoroscopy* are of much assistance. The characteristic finding is a high and immobile right diaphragm. The condition of the overlying lung and pleura is also demonstrated by the roentgen-ray, and this is of great importance in differentiating liver abscess from pulmonary and pleural disease. Artificial pneumoperitoneum used with the roentgen-ray study is of value in some cases.

Abscesses coming to the surface below the liver may give rise to symptoms of peritonitis, with rigid abdominal muscles and acute abdominal pain.

A history of attacks of dysentery and of residence in the tropics is important.

Diagnosis of Liver Abscess. The pain and tenderness must be differentiated from that of gall-bladder disease and from disease of stomach and duodenum, appendix, kidney, pleura and lung.

The liver enlargement must be differentiated from enlargement by other causes, such as, Hanot's cirrhosis, syphilitic enlargement, infectious hepatitis, ecchinoccus cyst, and benign and malignant neoplasms.

The fever must be differentiated from that of all varieties of fever resulting from concealed pyogenic infection, from malaria, and tuberculosis.

The cough and chest signs must be differentiated from disease of the lung and pleura.

In discussing the diagnosis I would like to call especial attention to cases presenting symptoms of chronic gall-bladder disease, especially when there is progressive loss of weight and strength. In my experience, cases of chronic desease of gall-bladder alone do not rapidly lose weight and strength, and if these symptoms are present in such cases it probably means disease of other organs, and especially of the liver or pancreas. Liver abscess and amebic hepatitis should be carefully excluded in these cases.

The clinical course varies enormously. Some cases start with a chill and high fever and remain violently ill with severe septic symptoms until relieved by treatment or until fatal termination is reached. Others will run temperature for a while

and then spontaneous improvement occurs followed by periods of recurrence of symptoms. Other cases, even with fairly large abscesses, complain of only the slightest symptoms and have only slight elevation in temperature. It is probable that the cases running violent courses have virulent secondary bacterial infection, which is absent in mild cases.

Prognosis, if untreated, is bad. The general course of the disease in acute cases is rapidly downward. In chronic cases, although there may be remissions, the patient slowly loses ground, and if he lives long enough the abscess usually perforates, above into the lung or below into the peritoneum or the bowel. Rarely an abscess may perforate the abdominal wall and rupture through the skin. By the time perforation occurs the patient is so exhausted that his chances are poor.

Positive diagnosis is obtained usually by exploratory puncture or by operation. Exploratory puncture has the disadvantage of possibly infecting the pleura or peritoneum and of causing hemorrhage. While puncture should not be used indiscriminately, so good an authority as Rogers uses the method extensively both in diagnosis and treatment of the amebic type.

Treatment is surgical and medical. Many cases are reported cured by simple aspiration followed by emetin treatment, others by syphon drainage, done by introducing a tube into the abscessed cavity through the canula following trocar puncture. An extension from this tube is dropped down over the side of the bed into an antiseptic solution which forms a water seal, preventing access of secondary infection, and providing slight suction.

I prefer exposing at least the wall of the abscess by open operation. If it is located on the surface of the right lobe, as it most often is, a rib, usually the 9th or 10th, is exposed in the mid axillary line, and resected subperiosteally. If the pleural cavity has not been obliterated by adhesions it is closed off by a suture around the drainage area. An exploring needle is then passed into the cavity to make sure of its location. The diaphragm is then incised. If the peritoneal cavity has not been obliterated it is best to pack against the liver surface until peritoneal adhesions have isolated the field. Attempts to suture the liver to the edges of the wound have not been satisfactory owing to the friability of the liver and tendency of the sutures to pull out and cause bleeding. Fortunately both the pleural and peritoneal cavities are often found already obliterated by adhesions at the site of the abscess. With the cavities properly closed off incision is made into the abscess cavity, the contents evacuated by suction, and drainage provided. This procedure is not applicable to all cases. In some the abscess is so situated that laparotomy is necessary to confirm the diagnosis and locate the abscess. The abscess is then either drained through a separate incision or through the laparotomy wound, according to the location. If drainage through the laparotomy is planned it may be best to pack down to the surface of the abscess, establishing a walled off tract through which the abscess is opened later, and drainage introduced. In other cases the abscess has invaded the abdominal wall to such an extent that simple incision only is required. Mortality following operative treatment has been sharply reduced by promptly following the operation with emetin administration. We give one grain by intramuscular injection each day for one week, then stop treatment for a week, and give the same dose each day for another week. It is well to mention that emetin is an extremely toxic and dangerous drug. Poisoning does not result from a single therapeutic dose; but from continuing the administration too long and getting cumulative effect. The symptoms of emetin poisoning are: extreme weakness, neuritis, rapid pulse, nausea, vomiting, and diarrhea. In animal experiments emetin has been found to be about three times as toxic when given in the vein as when given subcu-

taneously. (Legal Medicine and Toxicology, Peterson, Haines and Webster.) For an adult patient one grain given in the muscle daily for seven days has proven entirely safe. Yatren is reported to be even more efficient in the treatment of amebiasis than emetin. We have used stovarsol with good results.

Pyogenic abscess of the liver may be a part of a general septicemic process, with multiple small abscesses, or it may result from a septic process extending up the bile ducts; but such abscesses come more under the heading of septicemia and of bile duct disease, and will not be discussed in this paper. However, I do wish to discuss the pyogenic type of abscess resulting from infection carried to the liver by the portal vein. The original source of this infection is from some suppurative process in the area drained by the portal vein. This area includes the intestinal tract, the spleen, pancreas and gall-bladder. As the appendix is by far the most frequent location of such a process it is not surprising that the majority of cases of pylephlebitis and liver abscess follow acute appendicitis. The beginning of the abscess is probably as pylephlebitis, with septic thrombosis of small portal branches. For this reason pyogenic abscess is likely to be multiple. The location is most often the right lobe.

Pylephlebitis and abscess can occur at any time during the course of appendicitis or following it, and occurs both in cases that have been operated on and those that have not. A common history in such cases is as follows: acute appendicitis, usually of severe suppurative type with thrombosis of vessels in mesoappendix. After the usual appendectomy the patient may do well for a few days, then develop chills, irregular fever, and sweats. If only a small portal branch is involved the symptoms may be of moderate severity, but if there is extensive septic pylephlebitis the symptoms will be violent. Jaundice almost invariably develops, also anorexia and occasionally vomiting. As the process advances pain in the liver region may develop and any or all of the symptoms and signs of abscess mentioned in connection with amebic abscess.

Clinical Course. Some cases of this type have an insidious onset and run a more or less chronic course. Such a case may return, having gradually developed liver abscess symptoms as long as two or three months following the original inflammatory process in the portal area. However, the majority of cases of pyogenic abscess are acute with high fever and with chills and sweats and severe prostration, continuing until relieved or until fatal termination occurs.

Diagnosis. An abscess is very likely to be mistaken for a right lower pneumonia, or for pleurisy.

A subphrenic abscess may occur in the same type of case that is liable to have a liver abscess. It occurs especially following cases of extensive generalized peritoneal infection, such as perforated ulcer of the stomach or duodenum, and septic general peritonitis following perforated appendix. It may be impossible to say before operation whether some abscesses are located between the liver and diaphragm or within the liver. However, septic symptoms are usually less severe in subdiaphragmatic abscess than in liver abscess. Symptoms referable to disease of the liver itself are less marked in the subphrenic type.

The treatment of abscess is open operation and drainage of the abscess, preferably by rib resection and incision through the diaphragm if location of the abscess or abscesses permit. Several operations for drainage of different abscesses may be necessary in a single case.

Prognosis. Since abscesses are often multiple, and accompanied by septic pylephlebitis, occuring in patients already weakened by a suppurative lesion in the peritoneal cavity the outlook is bad. The mortality is about 46 per cent.

The following table indicates some important differences between amebic and bacterial abscess:

AMEBIC TYPE	BATERIAL TYPE
1. History of dysentery, and stools may show amebae.	History of preceding or coincident suppurative lesion in portal area.
2. Usually insidious onset.	Onset usually abrupt with violent symptoms.
3. Usually solitary.	Often multiple.
4. Jaundice mild.	Jaundice more marked.
5. Mortality when properly treated less than 15 per cent.	Mortality high (46 per cent).
6. Emetin indicated in post operative treatment.	Emetin not indicated.
7. Blood count usually high but not always.	Blood count high.

CASE REPORTS.

Case 1. J. H. M., aged 36 years, single, a white railroad conductor, was admitted July 21, 1926. He is a resident of Mississippi and has been in the U. S. all his life.

His complaint was of intermittent fever for 3 months. The onset had been with general aching and pains in the legs and he had had persistent annoying frontal headaches. He had been having temperature from 100 to 103°F, with chills at irregular intervals. There was slight jaundice. He had had discomfort in the right upper abdominal quadrant, marked anorexia, malaise, and loss of 12 pounds in weight. There had been slight nausea, but no vomiting. No respiratory symptoms. The bowels were regular. Previous history: Malaria, whooping cough, smallpox, frequent colds and occasional sore throat. Urethritis in 1919. No attacks of diarrhea. Physical examination: Temp. 100. Pulse 94. Respiration 20. The patient was thin, looked ill, and was very slightly jaundiced. The pupils reacted to light and accomodation, and were equal. The teeth and tonsils were normal. An aurist reported chronic non-suppurative otitis media. The right frontal and right antrum were hazy. Examination of the thyroid, heart, and lungs showed nothing abnormal. The abdomen was of normal contour with no rigidity. The spleen and liver were not palpable. There was a slight tenderness under the right costal margin. The liver dullness extended 1½ inches below the costal margin and was not increased upward. Roentgen-ray and fluoroscopic findings were normal. The gall-bladder (Graham method) was entirely normal. The blood count showed leukocytes 18,200, of which the neutrophils were 85 per cent, lymphocytes 9 per cent, and large mononuclears 6 per cent. Feces examination was normal.

The temperature ran an irregular course during the following seven weeks, at times 102 to 103°, and at times 99 to 100°. Jaundice was not marked. The tenderness became more marked in the liver region and in the seventh week the patient had an attack of severe pain in right upper quadrant of abdomen accompanied by vomiting and symptoms of local peritonitis. There was a definite mass under the right costal margin.

Operation was performed August 25, 1926. Under local anesthesia a transverse incision was made under the right costal margin. The parietal peritoneum was edematous and on opening it a large abscess cavity located in the right lobe of the liver, perforating through the under surface, was entered. Five pints of dark brown pus and much semi-solid material were removed. The temperature fell promptly and was subsequently normal. Ten days after operation a diarrhea developed for the first time during the patient's history. An examination of the stool showed numerous amebae (histolytica). Up to this time the patient had failed to gain appreciably in health. Emetin treatment was started and improvement followed promptly. The recovery was rapid and the patient has since been in perfect health.

Case 2. F. K., a white male resident of Mississippi aged 40 years, single, was a tractor salesman, and had lived in South America from 1919 to 1922. The present illness began in February, 1926, with attacks of fever and malaise every four to six weeks, each attack lasting three or four days, There was no nausea and the appetite was good. During the following eight months there were intermissions of three to six weeks without symptoms. During the eighth month epigastric pain developed, intermittent in character, lasting two or three hours at a time, and being worse at night. This pain had no relation to meals, and food caused no discomfort. There was a gradual loss of weight. The epigastric pain became more severe and more constant, and the patient was unable to sleep because of it. The patient says he was told he had duodenal ulcer, and had been put on Sippy diet for three weeks in October, 1926. During that time he was relieved. In November, 1926, the pain recurred and extended to the region under the right costal margin. A cough developed and there was a return of the fever. From this time until the operation on December 21, 1926, there was intermittent fever, cough, pain in right lower lateral chest which was worse on coughing, loss of weight, and weakness. Appetite remained good and food was enjoyed. He complained much of insomnia. Previous history: Had urethritis in 1921 and lues in 1917. There had been no dysentery. From 1919 to 1922 he was in South America and was in the hospital with a prolonged fever for 60 days. There had been no diarrhea during that time. Physical exam-

ination: The patient was well developed, though thin. He was 5 feet 10 inches in height and weighed 120 pounds (normal weight 150 pounds). The pulse rate was 120, temperature 100°, systolic blood pressure 110. There was no jaundice. The head and neck showed no abnormalities. The heart rate was rapid, the rhythm normal. There was no enlargement, no murmurs. There was slight dullness and diminished breathing over the right lower chest posteriorly. No rales were heard. The abdomen was of normal contour, with no rigidity. The spleen and liver were not palpable. There were no masses palpable. There was slight tenderness in the epigastrium. The liver dullness extended from the fourth rib above to one inch below the costal margin in the right nipple line. The blood count showed 16,500 leukocytes of which 81 per cent were neutrophils, 3 per cent large mononuclears, and 16 per cent small mononuclears. The roentgen-ray and fluoroscopic report was as follows: "Right diaphragm is high and mobility diminished. There is a localized upward bulging of the right diaphragm slightly to the right of the center. Roentgen-ray of stomach shows normal stomach and duodenum. Gall-bladder (Graham method) normal. Lungs are clear." Stool examinations showed no abnormalities. Blood Wassermann negative.

The diagnosis of liver abscess was made, but we did not feel certain that this diagnosis was correct, and exploratory laparotomy was decided upon.

The operation was performed on December 21. Through an upper right rectus incision the gall-bladder and stomach were found to be normal. On passing the hand over the dome of the liver a large indurated area was felt on the upper right surface of it. There were a few adhesions over this surface which were easily separated from the diaphragm. An aspirating needle introduced into this area yielded a chocolate colored pus. The abscess cavity was emptied by suction and contained one pint of pus. A tube drain was passed into the cavity, a strip of packing was placed below the tract of the tube and the wound was closed to the exit of the drain. Examination of the pus showed numerous bacilli and micrococci. A culture showed a short chain streptococcus. No amebae were found. Subsequent examinations failed to show amebae.

Following the operation the temperature promptly came to normal and remained so, but the discharge continued to be copious. After one month of this free discharge emetin treatment was begun. The patient promptly began to feel better and the discharge became rapidly less. There was remarkable improvement in the patient's general condition following the emetin administration and the sinus rapidly healed. However, the tube was kept in the tract as long as possible. The patient was seen on April 7, 1927, and was perfectly well, had regained his normal weight, was sleeping well, and had no symptoms.

Case 3: T. W. S., a white male, resident of Louisiana, aged 45 years, married, and a banker by occupation. Present illness: One year ago he had had an acute suppurative gall-bladder, at which time a cholecystostomy was done, with the removal of multiple stones. Recovery followed, and two weeks after his discharge from the hospital there was an attack of acute right upper quadrant abdominal pain followed by an abscess in the laparotomy scar, which ruptured. This healed promptly, and the patient remained well until a few weeks before the present admission when he had several attacks of pain in the gall-bladder region. Three days prior to his admission he had sharp pain in the right upper quadrant of the abdomen, radiating to right shoulder, vomiting, marked abdominal distention, tympanites, high fever, and severe prostration. The bowels had been kept open with enemata. There was no cough. Physical examination: (September 1, 1926.) The patient looked extremely ill; the skin was flushed and there was slight jaundice. Respiration was labored and rapid. The temperature was 103° F., pulse 122. The head and neck were normal, heart was of normal size. No irregularities nor murmurs were present. The systolic blood pressure was 130. Pulmonary resonance was normal. No rales were heard. Abdomen showed marked gaseous distension. The muscles felt rigid. There were no palpable masses though there was marked tenderness in the right upper abdomen. The white blood cells were 19,100; neutrophils 86 per cent. The urine showed a heavy trace of albumin and a few hyaline, fine and coarsely granular casts. No urinary sugar was found.

A tentative diagnosis of acute inflammation of the gall-bladder was made but operation was delayed for further observation. The condition became steadily worse and on the third day there was dullness over the right lower chest posteriorly with numerous rales and bronchial breathing. It then appeared that the patient had a right lower pneumonia. Vomiting was controlled by a duodenal tube left in place in the stomach. Fluids and nourishment were supplied by daily administration of solution of glucose and salt intravenously. After a stormy course for two weeks, with a high septic type of fever and with delirium, the patient gradually improved and the temperature came down to a range of 98° to 99°. The leukocytes then were 13,500, neutrophils 74 per cent. After one week the temperature gradually began to climb, running from 99° to 102°. The

marked dullness, bronchial breathing and rales persisted at the right base. The blood count on November 6 showed 27,300 leukocytes with neutrophils 85 per cent. An exploration of the pleura showed a small amount of clear amber fluid; culture sterile. Roentgen-ray examination showed the right lower chest opaque. An outline of the diaphragm was not clearly made out. The liver dullness extended from two inches below the right costal margin to the third interspace in the nipple line. There was a recurrence of slight jaundice. Operation: (November 8.) The ninth rib was exposed in posterior axillary line, under local anesthesia. Subperiosteal resection of two inches of the rib was done. Incision of the pleura (pleural cavity at this location had been obliterated by adhesions) and exploratory needle passed through the diaphragm yielded thick chocolate colored pus. Incision of the diaphragm opened into a large cavity in the upper right lobe of the liver which had ruptured and walled off in the subdiaphragmatic space. Tube drainage was provided and patient made a rapid, uneventful recovery. Culture of the pus showed colon bacillus. All pulmonary signs promptly disappeared. After convalescence, roentgen-ray study of the gall-bladder showed it small, but with good filling and emptying. (Graham method.)

Case 4: Miss M. B., a single white female, aged 63 years, was admitted April 5, 1927. Present illness: The onset had been four days previous with a diarrhea, which lasted only a few hours. Then there had been absolute constipation up to the time of admission. She had had general abdominal discomfort until 18 hours before admission, then she had violent epigastric pain following a large dose of a saline water. She vomited once. This pain subsided in two or three hours and had been fairly comfortable since. She had had no bowel movement for the previous three days. The history was otherwise unimportant. Physical examination: The patient was fairly well nourished and looked acutely ill. The temperature was 100.4°, pulse 136, respiration 26. The head and neck showed normal findings. Pulmonary resonance was normal. Voice and breaths sounds were normal. There were no rales. The heart was of normal size and there were no murmurs. The rate was rapid and regular. The abdomen was very distended, with slight tenderness, which was not confined to any one area. The spleen was not palpable. The liver was not palpable. The liver dullness extended from the costal margin to the fifth rib in the nipple line. No masses were felt. Slight rigidity of the right rectus was noted. A pelvic examination showed the pelvic structures to be normal, freely movable, no masses. The leukocyte count was 18,600; neutrophils 84 per cent. The urine showed albumin, granular casts, and scattered pus cells.

A diagnosis of acute appendicitis was made, and immediate operation performed, April 5. On opening the abdomen the general cavity was found filled with a milky fluid which gushed from the wound. The appendix was retrocecal, and on separating the cecum from the postero-lateral abdominal wall a large cavity containing thick, dark, foul smelling fluid was entered. The gangrenous perforated appendix was removed from this cavity and drainage provided. Patient did well for one week. She then developed a pain in the right lower lateral chest with a marked friction rub over this area. On April 14 there was slight jaundice. At this time there was marked dullness over the right lower chest behind, with numerous rales and harsh bronchial breathing. The liver dullness extended from the costal margin to the third rib in the nipple line. There was marked edema of the lower right lateral chest. There was no vomiting. The bowels moved well and the patient took nourishment well. The temperature varied from 99° to 101.5°. The pulse was from 130 to 136. The blood count showed 25,700 leukocytes, with 91 per cent neutrophils. A roentgenogram showed the right diaphragm markedly elevated. The lungs were clear.

A diagnosis of sub-diaphragmatic or hepatic abscess was made. The patient was extremely ill during the period of development of the abscess and then seemed to get a little stronger. By April 21 her general condition was definitely improved and it was decided to proceed with operation.

Operation: An exploring needle was introduced at the level of the ninth interspace laterally and milky fluid was withdrawn. The needle was left in place. Under local anesthesia two inches of the right ninth rib were resected sub-periosteally. As the pleura was not adherent, the pleural cavity was closed off by suture around the drainage area. Incision through the diaphragm opened into a large sub-diaphragmatic abscess, containing about thirty-two ounces of extremely foul pus. Tube drainage was provided. A culture of pus showed colon bacilli and gram positive astreptococci.

Following the operation the patient's condition promptly improved and the chest signs disappeared. Her convalescence was uneventful.

SUMMARY.

Case 1 was an amebic abscess without a preceding dysentery or residence in the tropics. Amebic dysentery with positive stool findings did appear, however, during convalescence following operation. The abscess was located on the under surface

of the liver and gave symptoms of peritonitis, as is usual in that location.

Case 2 was an amebic abscess with a history of residence in the tropics but without a history of dysentery. The abscess was near the upper surface of the liver. Cough and pain in the chest were prominent symptoms, as is usual in abscesses located on the upper surface.

Case 3 was bacterial abscess following suppuration in the gall-bladder. At onset the symptoms and signs strongly suggested acute infection of the gallbladder, and later as the abscess came to the upper surface, were absolutely those of pneumonia.

Case 4 was a subdiaphragmatic abscess following suppurative appendicitis with general peritonitis. It may have begun as a walled off part of the general peritonitis, or may have started as pylephlebitis with a small abscess on the upper surface of the liver rupturing into the subdiaphragmatic space.

Amebic infection is not uncommon. In dealing with cases of fever of obscure origin the characteristic findings of amebic liver disease should be borne in mind and carefully sought for. Emetin in addition to surgical treatment is indispensable. Bacterial abscess should be kept in mind when dealing with suppurative processes within the portal area. Symptoms of liver abscess may be easily confused with those of disease of the overlying lung and pleura, and with disease of the gall-bladder.

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DISCUSSION.

Dr. John Darrington (Yazoo City): This is a valuable paper and should not pass without discussion. Dr. Street has evidently gone to a great deal of trouble to prepare this paper, and I do wish to say he should be commended for the very careful and painstaking examination he has given these people. Abscess of the liver is not one of those things which come on suddenly and in which diagnosis is easy. It comes on very insidiously, for weeks. I think many of us have made a mistake in treating these patients for some type of fever. I have seen cases of abscess of the liver treated as malarial fever. Of course, we know that any case that does not respond to treatment with quinin for several days is not malaria, but doctors are prone to keep on treating as malaria any continued fever, particularly with rigors now and then. Sometimes quite a number of weeks will have elapsed before we can make an accurate diagnosis. The roentgen-ray has proven of great value. In one film there you noticed not the picture of an abscess but that the diaphragm was pushed up. To me, particularly, this paper of Dr. Street's has been one of great interest and great value.

Dr. S. H. Hairston (Meridian): You have all been confronted with a patient on whom you have operated for appendicitis, the patient continues to run a temperature and you do not know what the trouble is; you are puzzled. You need help, and the patient needs help. There is not suficient drainage there to warrant your going back in there. You know something is wrong, but just what it is you do not know. I have had occasion to do a postmortem on three of these patients that had appendicitis and went on and died. They developed temperature and probably some tenderness over the liver. The roentgen-ray findings do not warrant a diagnosis of liver abscess; we naturally think of sub-diaphragmatic abscess and do not know what to do; and the patient goes on and dies. I have held postmortems on three of these cases within the last two years and found little multiple abscesses all over the liver. I think Dr. Matas defines that as suppurative hepatitis. Dr. Allen can verify that. I find these little abscesses all over the liver, often overlooked. If you remember this possibly it might help you. I do not know what you can do for them, unless you let them go ahead and do their own dying.

Dr. C. A. Sheely (Gulfport): I want to ask Dr. Street a question on two cases of liver abscess I had last year. In both my cases I did just as the doctor suggested, resected a rib under local anesthesia; and in the first case I found after I had resected the rib and made an opening down on the liver that there was no adhesion between the liver surface and the parietal peritoneal wall.

So I thought of suturing, just as I had seen Dr. Hedblom do in his cases of pulmonary abscess; but I found, just as Dr. Street says, that it is very difficult to suture the liver to the parietal wall. The sutures will not hold. So I packed it with some iodoform gauze and left it in position for forty-eight hours; then with a cautery I opened directly into the liver abscess which was very large and contained some two or three pints of pus of the character he mentioned. In the next case, which had gone on for some time, I did a similar operation, resecting a rib under local anesthesia and opening the pleura. The roentgen-ray showed very much as his did, though the patient had cough there was no involvement of the lung. I inadvertently opened into the pleural cavity. As the air rushed in I recognized that I had opened the pleura and so closed it immediately. In this case I felt that it would be better to have opened a little lower down, on to the liver. I found in this case that there were adhesions between the liver and diaphragm. So I sutured the pleural opening and waited for a few days and then opened into the liver abscess, which was very large. These cases, just as Dr. Darrington said, are not cases in which you must rush in and do a great deal of surgical work, but you must do conservative surgery—that is, in several stages—because you have plenty of time. The first case began to recover promptly, just from drainage alone, and I could see and everybody could see that the case was getting well. In the second case there was prompt improvement so far as the drop in temperature, free drainage, and everything of the kind was concerned; but there was only temporary improvement in this patient. Although he had a very large tube (three-quarters of an inch) going into the cavity, with free drainage, there was only temporary improvement. The liver began melting, as it were, great shreds coming away. I filled the cavity with a solution of emetin, closing it up in there, hoping thus to stop the suppuration. The whole right lobe came away by suppuration. The patient's nutrition was failing; he failed to put on flesh and died from inanition.

I should like to know if Dr. Street used general anesthesia in these cases.

Dr. Street (closing the discussion): In reply to Dr. Sheely's question about anesthesia, we have done all our cases under local anesthesia except one of exploratory laparotomy in which the diagnosis was not certain until confirmed on exploratory laparotomy.

I believe that most of the beneficial results of emetin are from the hypodermical or intramuscular injection; I do not think that local applications in the abscess cavity are very likely to cause much benefit.

Speaking of the multiple abscesses in the various branches of the portal vein, that condition is very commonly associated with septic Pylephlebitis; and, as I said, bacterial abscess is very liable to be multiple and several operations may be necessary in dealing with a single case of bacterial abscess of the liver, if they live long enough.

I should just like to call attention to the fact that an amebic infection is not uncommon; and in cases that are suspicious, that give suspicious symptom of amebic infection or suppuration of the liver the administration of emetin or some other form of treatment for amebiasis will very often clear up the whole situation and do away with all of the symptoms, because a very small amebic abscess or amebic hepatitis will clear up under emetin treatment administered hypodermically.

ACUTE ABDOMINAL DISASTERS.*

A. E. HERTZLER, M. D.,

HALSTEAD, KANS.

Under this title I mean to include those pathological processes occurring within the abdomen which, if not combatted by the surgeon, will most surely result in death. I wish to exclude those diseases which are distressing and in a measure dangerous but in which the attendance of the surgeon is not emphatically required.

Some surgeons are satisfied to make a diagnosis of an acute surgical condition within the abdomen, allowing the details to be worked out after the abdomen has been opened. Unfortunately, often this is the best we can do but if possible an accurate diagnosis should be made, for on this depends the proper planning of the operation. If the incision is improperly placed additional trauma must be inflicted and additional time consumed. If local anesthesia is to be used an accurate diagnosis is imperative. In fact, local anesthesia is contra-indicated unless the surgeon is reasonably sure of his topographic diagnosis.

Since even after the exhaustion of our diagnostic skill we may be mistaken, the

*Read before Louisiana State Medical Society, April 26-28, 1927.

operation partakes more or less of the nature of an exploration. Unless one has a clear understanding of the relation between the pathological condition and the symptoms present he may still be confused after the abdomen is open. The surgeon must know, once he has the lesion in hand, whether or not it is responsible for the patient's complaints. During the years I did pathology it was nothing unusual to perform an autopsy after the surgeon had operated on the wrong thing.

I propose, because of this experience, to discuss the diagnosis after the abdomen is open as a supplement to the clinical discussion. I shall divide the abdominal disasters into two groups. First, the perforative group. This includes the diseases or traumas of the hollow viscera, the stomach and duodenum, the appendix, the gallbladder, and the intestines, small and large. Second, the thrombotic group which results in no solution of the continuity of their walls resulting in an acute general peritonitis as is true in the first group, but there is injury to the walls due to disturbance of the circulation. In this group is included those conditions in which the circulation of the blood is interfered with. Acute pancreatitis, intestinal obstruction, thrombosis of the mesentery, tumors with twisted pedicles, hemorrhage into a cyst or tumor, gangrenous appendix, and the like, make up this group.

I group the disasters into these two groups because I wish to emphasize the fundamental pathology in the beginning of the disease. In the perforative type the initial pain is due to the irritation of the gut wall and parietal peritoneum by the escaped intestinal contents. The peritonitis appears later and dominates the field. In the second group the pain is due to the presence of clotted blood in the tissues. It is the pain of dying tissue. Profound constitutional disturbance is and remains the chief factor, as is exemplified in pancreatitis, intestinal obstruction, and in fact any injury in which extravasted blood plays a part. Inflammation follows after a time, but rarely suppuration, unless indeed perforation follows as the result of gangrene.

I want to emphasize at the outset that one must consider the time which has elapsed since the onset of the disease. If seen in the first few hours the picture is quite different from that we encounter after a duration of many hours or several days. One must have a thorough understanding of the life history of the disease in order that one can diagnosticate the condition at the time the patient is first seen.

It is necessary to secure a clear understanding of the earliest symptoms in order to determine the point of beginning and therefore an idea of the organs involved. To fix this point in mind I have divided the abdomen into triangles, each triangle representing a viscus.* Generally speaking, the point of maximum pain at the outset will indicate the organ which is the seat of the disease. After some time has elapsed the infection may spread, and with this spread the clinical picture may change.

In the perforative group, in which the important factor is the ensuing infection, the incision must be placed at the site of the lesion, otherwise the infection will be carried to the non-infected regions, thus adding much to the burden the patient must bear. On the other hand, in the thrombotic group we are not dealing with an infection but with a disturbance of the mechanics of the circulation. We may carry the affected region across the abdomen without adding to the burden of the patient.

DISEASES OUTSIDE THE PERITONEAL CAVITY SIMULATING INTRA-ABDOMINAL DISEASES.

Before beginning the discussion of the two groups above enumerated it is necessary to consider those diseases from which abdominal disasters must be differentiated. Confronted by what appears to be an acute

*Hertzler, A. E. The Peritoneum, St. Louis, 1919. C. V. Mosby Company.

surgical disease of the abdomen I always ask myself, "Is the trouble really in the peritoneal cavity or is it an extra-peritoneal disease? If the disease is within the peritoneal cavity, is it one of the surgical disasters or a minor acute abdominal pain?" In the minor group I would include gallstone colic, acute appendicities, tubal abortion and less common affections of like severity. If it belongs to this group, I allow the assistants to work up the case, and look at the evidence later. If the condition is one belonging to the abdominal disasters, it must be solved immediately.

We may first consider the extra-abdominal diseases which may simulate abdominal crises.

THORACIC DISEASE.

Diseases within the chest may produce pain referred to the abdomen, provided the parietal pleura is irritated. This is notably true in children. The distinctive feature is general abdominal pain not distinctly localized and most pronounced along the distribution of the tenth, eleventh and twelfth intercostal nerves. The rigidity is not as pronounced as in peritoneal inflammation. The tenderness is superficial, often most pronounced when a fold of skin is picked up between the thumb and finger. After the confidence of the patient is obtained it is noted that deep pressure does not increase the pain as in peritoneal inflammation. This sign is more easily elicited after a hot wet pack has been placed over the abdomen for half an hour. When the diaphragm is irritated there may be pain in the neck transmitted to the third and fourth cervical nerves by way of the phrenic. These pains are aggravated by deep breathing or by coughing. In pneumonia the leukocyte count is often higher than is ever seen in early peritonitis.

Examination of the lungs early in the course of the disease may disclose only a hyper-resonance, often crepitant rales, and in later cases an area of dullness can be made out. The latter must not be depended on unless the disease is of some days' duration. In adults an important sign is the rapidity of the respiration and the height of the temperature. In children it must be remembered that the height of the temperature is greater in proportion in peritoneal disease than in adults. The most common cause of error is the failure to examine the chest carefully, particularly the posterior portion. In children, fortunately, upper abdominal diseases are exceedingly rare and the chief concern is the possible presence of an appendicitis. The presence of bladder disturbance, even to retention, may be present in appendicitis in children which is not a part of chest diseases. Rectal examination may reveal a resistance near the pelvic border.

It must not be forgotten that thoracic and abdominal disease may coexist. A case in point: An ex-athlete weighing some 230 pounds was taken during the night by excruciating pain in the abdomen located in the mid and right portion. Half a grain of morphin secured only partial relief. The onset of the pain was preceded by a chill. His physician found in him a temperature of 104 and a respiratory rate of 38, the abdomen distended. When I saw him on the second day his respiratory rate was 40, the temperature 104.2°. There was distinct dullness in the lower lobe of the right lung, but without friction rubs. Obviously the patient had pneumonia. The abdomen was distended, there was slight rigidity in the lower rectus and some deep tenderness. Obviously the severe abdominal pain would not be dependent on a pneumonia, most certainly not without a coexisting pleuritis. The severe pain and the slight abdominal signs did indicate a gangrenous appendix. Operation revealed a gangrenous appendix approaching necrosis.

When it is probable that so serious an abdominal lesion exists as a necrotic appendix, a perforation or an obstruction complicating a pneumonia, exploration should be done, in such cases of course under local anesthesia.

CARDAIC DISEASE.

Pericarditis and anginas sometimes produce pain of considerable intensity in the epigastrium and even lower in the abdomen. Usually in angina pectoris there is a history of previous attacks. When a portly old man is seized by an intense pain soon after eating a hearty meal one thinks first of pancreatitis, but if it follows exertion one naturally thinks of angina pectoris, particularly if there is pain down the left or even the right arm. In angina the patient usually is reclining or sitting in a chair when his doctor arrives. The patient with pancreatitis lies down. The face of the anginal patient is pale, not ashen as in pancreatitis. In angina the wild eyes and pale, sunken features gives credence to the patient's expressed fear of death. In most instances the patient will have recovered from his anginal attack spontaneously before the surgeon arrives. If the patient has received morphin the cause of the amelioration of symptoms may not be perfectly clear. Ordinarily, examination of the heart gives evidence of disturbance, but so many men of past middle life have cardiac and vascular changes before they have either an anginal attack or an acute pancreatitis. It is in such cases that the aid of the internist is greatly to be desired.

Sudden decompensation of the heart with distension of the liver is frequently confused with gall-bladder and appendiceal inflammation and sometimes with graver diseases. Palpation of the liver and examination of the heart usually clarifies the situation. The symptoms, particularly the pain, are not severe enough to simulate an abdominal disaster and few would be tempted to operate on a simple appendicitis or gall-bladder colic when there is any doubt as to the condition of the heart. Error here is possible only when the heart is forgotten.

There is even less excuse to confuse a pericarditis with severe abdominal disease. Careful examination of the heart should solve the problem, but when the patient is deeply under the influence of morphin the surgeon may have some anxious moments particularly if everything is all set for operation when the surgeon arrives.

GENITO-URINARY SYSTEM.

Renal stone and hematogenous infections of the kidney are most apt to stimulate serious abdominal diseases. Renal colic in its typical form is fairly characteristic but there are so many variations that a knowledge of the typical picture is of little use in half the cases. Only about half of the cases have the typical pain and tenderness in the kidney region. It may be most noted in the region of the gall-bladder, or over the entire abdomen, or in the lower abdomen only or even on the unaffected side only. Conversely, the pain of gall-stone colic may be felt in the kidney region. I once saw a distinguished surgeon cut down on kidneys three times in one week to find gall-stones instead of a kidney stone. That was before the days of the roentgen-ray and visualization of the gall-bladder of course. With all our refinements it is still possible to be wrong in whole or in part. Blood in the urine is absent in half the kidney stones and is present in many of the disasters within the peritoneal cavity. The error I fear most is the confusion of a gangrenous appendix with a renal colic. A very severe pain which subsides with or without a hypodermic characterizes them both. In both, the abdomen is usually somewhat sensitive to pressure. The roentgen-ray may show a stone, or a rectal examination may show pelvic peritonitis indicating an appendicitis, but a low stone may leave sensitiveness here. After all the evidence is sifted and there is still doubt I am quite willing to remove the appendix and see how it looks.

It may seem ridiculous to mention uremia in this category. I once performed an autopsy upon a woman brought to the hospital with severe epigastic pain, distention and vomiting. The history indicated a long standing disorder of the stomach. The

urine was reported normal but of light specific gravity. The autopsy showed kidneys not larger than walnuts, the smallest kidneys I have ever seen, and viewed in retrospect they grow smaller still. I mention here, with a feeling of pride, that I have never diagnosed a Dietl's crisis. I have studied the kidney and ureter in the laboratory and I am sure it is not possible to so kink the ureter sufficiently to occlude its lumen.

Hematogenous affections of the kidney usually present a stormy beginning. The temperature is usually too high for an intra-abdominal crisis. Deep tenderness in the renal triangle is usually very characteristic. If one remembers that the urine may be normal the first few days in the kidney infection, error is not likely.

Testicular inflammation when associated with inflammation of the lymph gland at the border of the true pelvis, may simulate an intra-abdominal inflammation. Therefore the testicle should always be examined. Prostatitis, particularly acute seminal vesiculitis, may cause severe referred pain. Patients with one of these affections may give wholly misleading histories, particularly if members of their family are present. It is rare that diseases in this region are severe enough to simulate abdominal disasters. The patient may complain vociferously enough but he does not look the part.

INJURIES TO THE SPINE.

In rare cases of injury to the spine or ribs, which involve the spinal nerves, there may be associated abdominal pain and tympany. Fever, leukocytosis and true muscular rigidity are absent and the tympany arises too early to be due to a peritonitis. When associated with traumatism sufficient to produce shock the differentiation from a visceral lesion may be difficult. If the lesion is a pinching one, as being caught between two heavy objects or run over by a heavy vehicle, or kicked in the belly by a Missouri mule, without associated injuries exploration is advisable if there is evidence of shock and an ascending leukocytosis. The exact analysis of the nature of the trauma is of the greatest aid. When in doubt it is best to explore.

DISEASES OF THE NERVOUS SYSTEM.

Tabes not infrequently produces a series of symptoms which suggest severe abdominal disease. Sometimes a history of indefinite pains in the epigastrium associated with a pain between the shoulders suggests ulcer. If on this history severe epigastric pains supervene one may be led to think of a perforating ulcer. Careful examination of the nervous system will make the diagnosis clear, but this requires talent not always available. Usually a superficial examination will save the error. It is recorded that a tabetic may actually have a perforating ulcer.

Lead colic may simulate an abdominal crisis. I once attended a young painter who fell from his ladder writhing with pain in his abdomen. I did not operate on him because the master painter made the diagnosis of lead colic. I recall he rolled about in his lamentations in a manner not imitated by those who have a perforation and the cold beaded brow was not in evidence. Examination of the gums and blood should give evidence of lead poisoning.

MINOR INTRA-PERITONEAL AFFECTIONS.

This group of affections I shall not consider. It includes gall-stone colics, cholecystisis, inflammation of the appendix and the great group of pelvic diseases. They rarely cause great difficulty in diagnosis and they are not emphatically surgical. There is sufficient time to permit examination. Those cases which simulate grave diseases will be considered in connection with the differential diagnosis of the major diseases.

MAJOR INTRA-ABDOMINAL DISEASES.

Perforative Diseases.—As above indicated, these will be considered in two groups, the perforative and the thrombotic. It is important, let it be emphasized, that these be separated because on this is de-

pendent the proper planning for the operation. In perforative diseases it is highly important that the incision be placed over the point of perforation. To place it elsewhere is very apt to be a fatal error. In the thrombotic type exact localization is frequently impossible nor is it important for we are not dealing with an infection and the wide exposure of the peritonial cavity is not attended by any considerable additional danger.

Perforations of the Stomach and Duodenum.—In every language the superlative adjectives have been commandeered to express the intensity of pain associated with perforation in this region. The French apply the word "diabolical". Considered in its historical sense it is about as expressive as any. The words "awful, terrible, unbearable," assume a new meaning when pronounced by patients in the throes of an acute perforation. In a typical case the patient is suddenly seized with intense pain in the epigastrium. The pain at first comes in paroxysms. In the periods of lesser pain the patient lies panting with a look of anxious apprehension on his countenance. "There comes another!" he cries as he writhes in renewed agony. In some cases the patient falls as if shot. The face becomes blanched, the eyes wide, the pupils dilated, and the beads of cold perspiration on the brow aid in depicting the look of terror on his countenance. The pulse is rapid and threadlike, the abdomen is flat and boardlike but not tender to the touch, though the patient wards off the examining fingers fearful that any manipulations will increase his sufferings.

I once opened an abdomen under local anesthesia in this acute stage. An opening in the duodenum came promptly into the operative field as soon as the peritoneum was incised. With the onset of the pain a jet of cloudy fluid spurted from the opening, and the surrounding intestinal coils and the stomach contracted to the most extreme degree. With the temporary relaxation of the spasm the pain partly subsided. Suturing the hole and the covering of it with omentum did not increase the pain.

The signs of inflammation in this early stage are absent. The initial pain would seem therefore to be primarily a spasmodic one, the spasm being induced by the irritation of the peritoneum by the irritating fluid escaping through the perforation. When not operated on in this early stage the fluid continues to escape and trickles down the watershed of the great omentum and colon producing irritation of the peritoneum as it goes. Commonly some of the fluid reaches the pelvis. After some hours the symptoms of peritonitis dominate the field. Rise of temperature begins, the distention and muscular rigidity appear, and if the escaped fluid reaches the pelvis signs of irritation of this region may be marked. The appearance now is that of a peritonitis, and when the patient is first seen at this time the problem is to determine the cause of the peritonitis. This can be determined only by the proper evaluation of the early symptoms.

The history should make the diagnosis easy. There are two difficulties that may be encountered. Not all cases begin in this acute manner. Stomach perforations particularly may be partly protected by adhesions, making the onset less dramatic. The physician may promptly administer a hypodermic of morphin, and as the right abdominal pain advances he diagnoses appendicitis, and in the history given the surgeon the degree of the epigastric pain may be minimized to fit the epigastric pain generally believed characteristic of beginning appendicitis. In such cases it is necessary to break through the professional barrier, and hear the patient's or a friend's account of the first symptoms.

Examination shows muscular rigidity extending from the epigastrium to the pelvis involving the whole right half of the abdomen, and if the pelvis is reached by the exudate, the lower part of the left rectus as well may be rigid, thus mimicing

a primary pelvic disease. An acutely inflammed appendix lying lateral to the colon and approaching the liver may give rigidity of the whole right side of the abdomen, but the general course is not as stormy as in an acute perforation. It may closely simulate a slow leak.

Intermittent perforation may present a confusing picture. Not infrequently the impending perforation may be so protected by adhesions so that only a small amount of fluid escapes. The initial pain in such cases may be that of a local inflammation only, a perigastritis which it is in fact. The small amount of fluid escaping may find its way to the pelvis, and there set up an inflammation which may appear to be the major lesion. I once mistook such a condition for an ovarian cyst with a twisted pedicle, so big and round was the inflammatory conglomerate produced. More commonly the inflammation simulates an appendicitis. When operating in such a case the surgeon must know whether or not the local changes found in and about the appendix explain the symptomatology produced. In my pathology days I did several autopsies after the surgeon had removed the appendix never suspecting the presence of a perforation higher up.

The perforation may be so walled off as to prevent all but a local abscess. The large amount of inflammatory exudate may so deform the stomach that a malignancy is diagnosed. The process may be so slow that neither a rise of temperature nor a leukocytosis may be detected even after the process has continued for some weeks. In such a case it is not a perforation, thanks to the protective action of the surrounding peritoneum.

Diagnosis with the Abdomen Open.—When an abdomen is incised through the right rectus the pyloric region is exposed. Usually an exudate is at once encountered, and usually the site of perforation comes readily into view. In the very rare perforations posteriorly the lesser peritoneal cavity is the recipient of the stomach contents. If this is the case one must consider a pancreatitis. An examination of the omentum will show the absence of fat necrosis, and there is no evidence of hemorrhagic infiltration of the pancreas. Sometimes when the fluid does not appear at once in the region of the pylorus an examination of Morris' pouch and the watershed of the great omentom may show the exudate. This is particularly true when an ulcer has slowly perforated and has become closed by secondary adhesions. Should the operator have made the error of assuming an appendicitis existed, the exposure of the appendix will show an organ in which there is insufficient reaction to account for the severity of the symptoms. Only a gangrenous appendix can produce the acute pain that can compare with a perforation of an ulcer. Often the exudate so irritates the colon and appendix that they are reddened and increased in thickness. Such an appendix does not produce a pain that can simulate an acute perforation.

Perforation of the Gall-bladder.—The differentiation between a gall-bladder colic and the beginning of a perforation may not be so easy. Usually the perforation comes on after a cholecystitis has existed for a number of days. If the site of impending perforation is partly walled off before the actual perforation begins the process may be gradual, and it is only the extension of the pain downward along the colon that indicates a perforation. It was my opinion until recently that when the inflammation extends as far as the pelvis a perforation has most surely taken place. But it is not so. The inflammatory exudate, non-infective from an intact but thrombotic gall-bladder, may reach the cul-de-sac and produce a pronounced irritation, without there being a perforation present. How then shall we differentiate? I do not know. This is one of the conditions in which the fates design to down the surgeon, and he is helpless and must procede with an uncertain diagnosis. When there is a sudden pain or a marked exacerbation of the pain in the hepatic region, and there is

evidence of an inflammation extending downward to the pelvis, the surgeon had best proceed to operation.

When a necrotic gall-bladder gives way there is usually a surcease from the colicky pains for some hours and the patient feels relieved until a generalized peritonitis begins. When the wall suddenly gives way with a rapid extension of peritonitis it may or may not be accompanied by evidence of shock. Such a sudden perforation of the gall-bladder is more rare. In such instances I see no way in which a differentiation can be made from a duodenal perforation. A case in point is that of a man who had a perforation while in my hospital visiting a brother who had a cholecystectomy performed a few days before. As he was leaving the hospital he dropped on the steps because of an excruciating pain in the right upper abdomen. An unqualified diagnosis of a perforation of a hollow viscus was made and the duodenum was suspected. He was taken at once to the operating room and a right rectus incision made. A hole near the fundus of the gall-gladder was found from which purulent bile and stones had already escaped. There was no inflammation, not even a hyperemia of the peritoneum. The irritation caused by the escaping contents must have been the cause of the extreme pain, since inflammation had not yet begun. In this case gangrene of the gall-bladder had not taken place. The accumulated gall-bladder contents had burst the friable necrotic wall.

Diagnosis with the Abdomen Open.—Usually the presence of bile or a greenish purulent fluid appears as soon as the abdomen is opened. Sometimes, when the perforation takes place through one or more openings and the exudate is cloudy, one may think first of a duodenal perforation. However, in such cases the gall-bladder is thickened and there are usually new or old adhesions to the gall-bladder. A careful inspection at the point of attachment of these adhesions will show the small openings through which the gall-bladder contents are escaping. It is a good rule whenever there is any doubt as to the cause of an abdominal crisis to look for fat necrosis, for not infrequently pancreatic disease follows or is associated with pronounced gall-bladder affections.

Appendicitis.—I wish to include in this category only the gangrenous and perforative type. The average case of acute appendicitis cannot be regarded as an abdominal emergency.

My memory goes back to the days when operation was not the rule in acute appendicitis and the mortality was not great. Appendectomy is generally regarded as the proper field for the beginner. This is true for the mythical chronic type The operation for acute appendicitis in my judgment taxes the resources of the surgeon more than any other common lesion within the abdomen, and unless a skilled surgeon is at hand the patient is better off under the protecting wing of his family doctor.

Gangrenous appendicitis is another matter. Here, unless relieved by operation, the patient will surely die. This type of disease is characterized by sudden very severe abdominal pain generally diffuse at the beginning. Let it be repeated that the one important diagnostic point is the very severe pain at the outset of the disease. After a period the pain subsides and there is but little reaction in the region of the appendix. The temperature may be but little elevated, and the pulse but little increased in rate. There is usually slight discomfort in the appendiceal region but no actual inflammatory reaction. The reason for the subsidence of the symptoms is that owing to the occlusion of the appendiceal artery the whole appendix dies, and dead tissues transmit no pain. It is not until the necrotic tissue separates and the contents escape that generalized peritonitis begins. The dead appendix does not excite the surrounding peritoneum to preparatory reaction, and the gut contents is poured into the unprotected peritoneal

cavity. Hence the almost universally fatal results.

In the beginning this type of appendicitis really belongs to the thrombotic type, but because perforation will sooner or later occur it is included here. Because of the death of tissue this type closely resembles intestinal obstruction or mesenteric thrombosis in its early manifestations. The subsidence of the pain after ten or twelve hours, the absence of tympany, and certain limited local reaction, suggests a gangrenous appendix.

Diagnosis with the Abdomen Open.—When the incision reaches the preperitoneal tissue there may be some edema. If this is most pronounced in the lower end of the wound the diagnosis is all but confirmed. If, however, the reverse is true, one thinks at once of the possibility that the irritation is coming from a perforation above. After the abdomen is opened the fluid will be bloody in most instances, which at once excludes perforation of the stomach or gallbladder. The appendix is sought and will be found to be big and black. If the appendix is not the seat of gangrene the bloody fluid spells intestinal obstruction, mesenteric thrombosis or some other disease disturbance of the circulation, and the surgeon must at once search toward the median line. If on the other hand the exudate is floculent, milky or contains food particles the incision must at once be extended upward.

Perforation of Typhoid Ulcers.—In the course of a typhoid fever if there is sudden pain, particularly to the right and below the umbilicus, perforation must be suspected. If the leukocyte count before the advent of pain is known, shows a slight rise, particularly in the number of the polymorphs, the probability of a perforation is established. Local tenderness likewise adds additional evidence. The condition of the patient may be such that the primary pain is not noted, and the local tenderness and increased tympany may be the first evidence of perforation. Operation on suspicion is justified. Fortunately these patients lend themselves particularly well to exploration under local anesthesia. This makes the operation practically innocuous, and the surgeon need not hesitate to proceed.

Diagnosis with the Abdomen Open.—A low right rectus incision brings one best to the seat of trouble. If an incision four or more inches long is made, after a thorough anesthetization with novocain, one can lift up the abdominal wall and view a considerable area of intestines without manipulating them. Usually there is some attempt at adhesion which guides one to the area of trouble. If not, one needs but explore the terminal yard of small gut to find the seat of perforation.

Perforating Malignancies.—Sudden pain with evidence of inflammation is in evidence. To associate it with malignancy is dependent on the ability to diagnosticate a pre-existent malignancy. Progressive loss of weight antedating the beginning of the pain, and the general appearance of the patient, are the chief guiding signs. Carcinomas of the stomach and of the sigmoid are the most apt to perforate, and the initial pain in these regions may furnish the first suggestion as to the nature of the trouble.

Diagnosis with the Abdomen Open.—An area of infection is encountered, and with it a thickened gut. The question to be decided is whether the thickening is due to a neoplasm or to an inflammation. This condition is usually found about the sigmoid. Then it is a question of diverticulities or carcinoma. In carcinoma there is thickening of the gut above a constriction or a tumor.

Perforation of Pelvic Tumors.—A hemorrhagic myoma bursting through its capsule, or a rupture of the walls of pseudomucinous cyst produces sudden pain and shock. Usually a bimanual examination reveals a pelvic tumor and the added symptoms discloses a rupture or a twisted pedicle.

Diagnosis with the Abdomen Open.—In a bursted myoma bloody fluid together with a myoma will be found. If a cyst has bursted the intestines will be found floating in a mass of pseudomucin. A tumor with a twisted pedicle will appear as a blue-black tumor often surrounded by a hemorrhagic exudate.

THROMBOTIC DISEASES.

In the preceding group of diseases the fundamental factor was the escape of the fluid contents of an organ into the unprotected peritoneal cavity through an artificial opening. It is a problem of inflammation of the peritoneum. In the group now to be considered the fundamental factor is the death of tissue. Inflammation enters the problem late if at all. Therefore the evidence in these is to be found in pain and general tenderness characteristic of the peritonitis following perforation. In all of this group there is disturbance in the circulation and the extravasation of blood. This hypothesis rests on the fact that this is the only constant factor in these diseases. It simulates conditions in which thrombosis and extravasation of blood, particularly the later are present. In lesions within the abdomen in which thrombosis and extravasation do not take place the symptomatology characterizing this group is absent.

Intestinal Obstruction.— The primary symptom in acute intestinal obstruction is to be found in the injury of the gut wall, and only secondarily to the interference with the fecal circulation. This fact is often demonstrated clinically, for instance, in intestinal obstruction by a foreign body just large enough to occlude the lumen. There are intermittent cramping pains but no vomiting and no constitutional reaction. I have observed this a number of instances in obstruction from gall-stones and once by a conglomerate of paw-paw seeds. This can be confirmed by animal experimentation. When a gut is simply compressed sufficiently to occlude the lumen by means of a lead plate, no symptoms follow immediately. Later on, peristalsis becomes more active, as one can readily observe under the fluoroscope. Following this come distention and evident discomfort. If, on the other hand, the plates are made to compress the gut sufficiently to occlude the circulation, increased peristalisis and evidence of discomfort begin at once.

The clinical picture of an acute intestinal obstruction due to injury to the gut, as by twisting, or pinching, is that of a sudden severe pain accompanied by general constitutional disturbance. The pain is spasmodic in character, and there is evidence of increased peristalsis. This peristalsis is the effort of the bowel to free itself from its predicament, and not due to the disturbance of the fecal circulation. This is seen clinically when but a part of the wall is pinched, as in a Richter's hernia. The bowel is not occluded at all, but there is just as much fuss in the belly as if there were a complete occlusion. The vomiting is reflex, and occurs if there is anything in the stomach to vomit or not. The vomiting of obstruction on the other hand is due to the regurgitation of the gut contents as one can readily see and smell. The violence of the pain is in general proportional to the degree and extent of gut involved.

Therefore while the initial pain in perforation and obstruction may be alike and both accompanied by increased peristalsis and vomiting, the perforation is followed at once by evidence of peritoneal inflammation. Intestinal obstruction on the contrary is attended by increasing distention, but not by muscular rigidity as in inflammation. True enough if the injured gut can come in contact with the parietal peritoneum there will be a reaction to the circulation in the parietal peritoneum and an associated tenderness, but it lacks the muscular rigidity of peritonitis. Furthermore, perforation usually takes place in certain areas as above enumerated. In intestinal obstruction, on the other hand, unless some antecedent condition, as old scars or tumor, is present to form a clue, one has no defi-

nite guide as to the location of the trouble. The statement that early vomiting indicates an obstruction high up, while late vomiting indicates a low lesion, is seldom of real use in a concrete case. More often it is more of an indicator of tissue injury rather than of location.

After a time both temperature and pulse may become elevated. Blood count and temperature is that of blood extravasation, about 12,000 leukocytes, with a temperature of less than 102°. This, it will be noted, is about the disturbance one sees in tubal abortions, ruptures of viscera, and in general following extensive operations. The pulse rate, too, is generally low, but may be high if there is sufficient disturbance to produce a shock. When these signs begin one may be sure that the gut wall is suffering injury from the obstructing agent.

That the pain is due to the injured tissue and not to the distention is indicated by the fact that when the gut dies at the point of obstruction the pain ceases and the patient is free from pain, though the patient is still distended and vomits incessently. This cessation of pain with the advent of necrosis often leads the patient to believe he is improving. Once, in consultation, in such a condition in reply to the statement of the physician that the patient was better my assistant, the late lamented Wuttke, gave vent to the following axiom; "A patient with obstruction who feels better without passing anything from his bowels is worse; gangrene has begun."

I want particularly to emphasize the importance of the anatomic changes in the gut wall because in the present intensive studies in physical chemistry investigators are prone to forget that obvious changes are taking place in the gut wall. This is particularly important to the operating surgeon, who with tissue in hand reads in large measure the past and future of his patient.

Diagnosis with the Abdomen Open.—In intestinal obstruction, unless there is some evidence to warrant a presumptive topographic diagnosis, it is best to make a midline incision. Usually distended intestines protrude as the incision is made. If serious exudate greets the operator he may be hopeful that gangrene has not developed. If bloody fluid escapes he must expect to find dead gut. In the first event he may look for a constricting band or an early twist. Usually, if the distended gut is followed the point of constriction will be found or conversely, if collapsed gut is followed until it meets the distended gut the lesion will be found. This alone is not sufficient. A definite organic constriction must be found. Sometimes a part of the gut is collapsed and a part distended without there being any constriction at all. If there is a bloody exudate, injured gut must be found or else the entire gut searched. If no definite construction is found other lesions must be looked for. In distention from other causes it is not unusual to find a part of the guet distended and a part collapsed without there being any constriction.

The inexperienced operator is very apt to diagnosticate a volvulus. Unless there is evidence of local circulatory disturbance a volvulus cannot be diagnosticated. This most assuredly is true if there is constitutional disturbance. Failing to find evidence of constriction, other causes capable of producing the symptoms presented must be sought. Fat necrosis particularly must be sought. I have seen repeatedly at autopsy cases in which a volvulus had been diagnosticated and the real lesion overlooked. The most common error was an unrecognized pancreatitis. The next most common was some heart lesion. Unfortunately pathologists commonly are empolyed on a salary and they are not always in a position to tell all they know.

Acute Pancreatitis. — Hemorrhage into the pancreas begins with excruciating pain in the epigastrium. It may extend straight through to the back and may even be felt most intensely there. There is collapse, vomiting, and extremely rapid

pulse. There is early abdominal distention without notable local tenderness. The features early become sunken and the complexion ashy.

The subjects are usually well fed males of middle life or beyond, and the attack comes most often after a full meal has been eaten. Not uncommonly acute pancreatitis attacks patients known to be suffering from gall-stones. The question then arises whether the attack is one of gall-stones or not. A succession of milder degrees of pancreatic disease may precede the serious attack. If these have been diagnosticated as gall-bladder colics one is apt in a serious attack to think first of the gall-bladder trouble, particularly of a ruptured one. Usually a glance at the patient convinces one that the attack is too acute and too severe to be from gall-bladder spasm, but the differentiation from pancreatitis and perforation of the gall-bladder may be quite impossible. The pain in ruptured gall-bladder is in the hepatic triangle, that of pancreatitis in the epigastrium, and when it is referred to the back it is exactly in the center of the back, the gall-bladder disease to the right shoulder. Intestinal obstruction often is diagnosticated in pancreatitis. The collapse, very rapid pulse, the location of pain and the color of the face is not that of obstruction. Mesenteric thrombosis most closely stimulates pancreatitis in suddenness of onset, but there are no back pains and the ashen color is lacking and the patient younger. Distinguished men who die of "acute indigestion" after a banquet usually are victims of acute pancreatitis.

Diagnosis With the Abdomen Open.—When pancreatitis is diagnosticated one looks first for bloody exudate, then fat necrosis in the great omentum or mesentery. Fat necrosis is one of the most characteristic lesions found in the abdomen and is the one most commonly overlooked or looked at and not seen. The whitish gray spots set in the yellow fat of the omentum or mesentery is as if a hole had been punched out and filled with caseous material.* Not finding either or both, the pancreas is palpated. If found normal, the gall-bladder is examined. If found negative, search must be made for intestinal obstruction If this is negative, the region of the appendix is approached, and if a lesion is found here a new incision must be made. Conversely, when operating for other acute abdominal lesions fat necrosis should always be sought for if there is any question as to the cause of the symptoms.

Thrombosis and Embolism of the Mesenteric Vessels.—Any condition which occludes a mesenteric vessel of any magnitude produces a disturbance of the blood supply of the gut wall resulting in anemic necrosis or hemorrhagic infarction. Hence the symptomatology is similar to that in intestinal obstruction, though the lumen of the gut is not narrowed.

Pain is nearly always the introductory symptom. It is sudden in onset, diffuse in distribution, constant and dull in character, but there may be colicky exacerbations in the beginning. In some cases the pain is gradual in onset, particularly in those cases which are superimposed on inflammatory conditions resulting from some previous infection. One can hypothecate in such cases the gradual occlusion of the vessel by a thrombotic mass with a good deal of confidence. Local symptoms follow when the parietal peritoneum becomes irritated by the distressed gut.

Vomiting is common, and when the vomitus contains blood it has diagnostic significance. Diarrhea is present in the majority of cases, generally bloody in character, and when taken in conjunction with the initial symptoms above detailed, warrants a presumptive diagnosis. This sign is particularly valuable in superimposed cases, say coming on some days after operation for acute suppurating appendicitis. The initial symptoms are apt to be ascribed to acute intestinal obstruction associated with the operation and the

*The Peritoneum, St. Louis, C. V. Mosby Co., 1919, Vol. II, Fig. 213.

drainage introduced. Bloody vomiting or bloody stool turns the attention to the mesentery. Distention and tenderness are associated in variable degrees but bear nothing distinctive.

Stress is placed sometimes in the search for a primary focus for an embolic process. In none of my cases has there been a cardiac lesion.

Diagnosis With the Abdomen Open.—A bloody exudate is almost sure to greet the operator. The affected gut when found may feel like a garden hose, so firm are the walls. When seen within a few hours after the onset this thickening of the gut walls may be absent and the blue gut walls the only thing distinctive. Sometimes this is so little marked as not to be noticed. The mesenteric vessels must be examined and can usually be demonstrated as being thrombotic.

Torsion of the Omentum.—The majority of cases of torsion of the omentum are associated with large inguinal hernias. When a patient so encumbered has gradually increasing pain and swelling in his hernial sack with increased resistance in the lower abdomen extending upward from the inguinal region, the diagnosis is fairly easy. However the onset may be sudden. One of my patients dropped in his tracks while walking along the street and had to be transported to the hospital by a passer-by. Another who long had an irreducible inguinal hernia was seized with severe pain as he stepped from a ladder in his dry-goods store. The differentiation between torsion of the omentum and strangulated irreducible omental hernia is dependent on the fact that in strangulated hernia the induration of the abdominal wall does not extend much above Poupart's ligament, while in torsion of the omentum it extends up as high as the umbilicus.

In a minority of cases the twist in the omentum occurs in the absence of a hernia. The pain is as severe as in the preceding affections. In such cases the only guiding evidence is found in the fact that corpulent individuals are most commonly affected. In my single case the back pains and rapid pulse of pancreatitis were absent but I diagnosticated pancreatitis just the same. The general symptoms are severe pain widely distributed not to be distinguished from intestinal obstruction or mesenteric thrombosis.

Diagnosis with the Abdomen Open.—Unless the patient is exceedingly corpulent a mass can be felt once the patient is anesthetized. Bloody fluid is always present. A hard black tumor is readily made out, which when delivered can readily be made out as belonging to the omentum. When a hernia is present the exploration of the sac shows the omentum to be black, and when delivered shows torsion to be the cause of the necrosis. Sometimes in a hemorrhage into a myoma, to which the omentum had previously become attached, the huge omental vessels may suggest a torsion but by following the omentum downward the differentiation becomes easy. Besides the surgeon should know of the presence of the myoma before operation which should suggest the correct diagnosis.

Summary.—Nowhere in medicine is a working knowledge of the pathology of the living so vital as to the surgeon when confronted by the major lesions within the peritoneal cavity. Clinical diagnoses are never certain and the surgeon must be able to orientiate himself quickly and certainly after the abdomen is open. Error at this point is far more disastrous than a wrong diagnosis before the operation. It is of vital importance to differentiate between an infection and one in which infection does not play a part. Thus orientiated the skilled surgeon can correct minor errors in diagnosis without detriment to the patient.

CONCLUSIONS.

1. Abdominal crisis must be distinguished from extra-abdominal affections and milder intra-peritoneal affections.

2. An effort should be made to distinguish between perforations of hollow viscera and conditions attended by disturbances in the circulation.

3. The best clinical observation possible must be supplemented by observations made after the abdomen is open lest a minor lesion be mistaken for the major one.

DISCUSSION.

Dr. Urban Maes (New Orleans): It is my good fortune to have read Dr. Hertzler's complete paper, which he has touched upon only briefly in his remarks, and I have no hesitancy in saying that I have never encountered a more accurate or more comprehensive discussion of the diagnosis and management af acute abdominal conditions. Moreover, he speaks with an authority which few of us dare claim, for he has co-ordinated all of his processes; that is, he has traced his cases through diagnosis, operation and final laboratory study. It is the last step, I need not point out to you, which makes the analysis of real value.

In the management of acute abdominal conditions it is almost axiomatic that the more accurate the diagnosis, the better are the end results. Most of these patients are extremely ill and can endure only a minimum of shock, which means, in turn, a minimum of manipulation and of anesthesia, a result which can best be secured by a correct pre-operative diagnosis, not an indefinite one or one made to fit the treatment.

To secure this happy result Dr. Hertzler has outlined certain definite steps. First, the patient's previous history is essential, not only a most careful account of the onset of the present attack and a detailed study of the clinical symptoms, but also an investigation into his past illnesses and general health. Second, there must be a painstaking physical examination which will localize externally the area of greatest inflammation, as evidenced by the chief symptoms of pain or tenderness, and rigidity, and will further differentiate it into upper or lower abdominal pathology. Finally, considering together the evidence presented by the history and the physical examination, the actual diagnosis is made, the systematic elimination of possible diseases being a helpful if mechanical step in the process.

The correct placing of the incision naturally depends upon a correct preliminary diagnosis, and, once the abdomen is opened, confirmation of it should promptly be sought by a search for the area of greatest inflammation, within which the primary pathology will almost invariably be found. Routine attention to this apparently simple point will mean the elimination of promiscuous and unnecessary surgery. How many harmless appendices, to take a most obvious illustration, have been removed before the true pathology was located elsewhere.

I agree with Dr. Hertzler, indeed I have long believed and taught, that all of the great abdominal catastrophes can be divided into two groups, the perforating type, and the vascular, or, as he puts it, the thrombotic type. Usually a tentative diagnosis of this sort can be made before operation, and generall it is revealed immediately after the peritoneum is opened, by the character of the fluid present. Invariably glairy fluid with a few flocculent particles means a perforating lesion, while bloody fluid means a gangrenous lesion. I might add, however, that thrombosis of the renal vessels, which Dr. Hertzler has mentioned, is one of the most difficult diagnostic problems of abdominal surgery, and particularly when it appears in children it may lead to considerable confusion before the true pathology is established.

Dr. Waldemar R. Metz (New Orleans): Dr. Hertzler has brought before us this morning a surgical subject of the very first importance. I, like Dr. Maes, had the pleasure of reading his paper before he arrived here and I really regret that he did not stress more the valuable points and suggestions therein contained.

The acute abdomen is, of course, important to the surgeon, but it is likewise equally important to the general practitioner who, perhaps, sees these cases first, and upon early diagnosis depends in no small measure the best operative results. The problems of the acute abdomen, both as to diagnosis and surgical approach, are manifold. They are frequently most complex and, when seen late, almost impossible to battle. Surgical judgment is perhaps the greatest asset that can be accorded to any surgeon, and there is probably no place in the whole of general surgery where its application is more important, its exercise so imperative as in these acute abdominal conditions. I think it was Galen who said: "Experience is fallacious and judgment difficult," and this well applies to the acute abdomen.

The abdomen is a large cavity, its contents are numerous and they are closely related both by anatomical disposition and by physiological function. The abdomen is peculiar in that its disease is usually deep-seated, far removed from our usual methods of diagnosis, such as inspection and auscultation, and even percussion has a limited field unless there is an enlargement of some organ or free fluid is present. Therefore the diagnosis must be made by the palpating

finger, or by a thorough, comprehensive, subjective history alone. The diagnostic tripod of pain, vomiting and muscular rigidity may stand on all three legs, or only on one or two, so that we must summon accessory aid in coming to a conclusion. This aid is the laboratory and through blood chemistry and other tests we are helped, the laboratory findings often backing up our surgical judgment in what course to pursue. There is a growing tendency to stress the laboratory to the detriment of clinical findings and physical examination; it is the shifting of clincal responsibility to the microscope and it is calculated to undermine our diagnostic acumen. How often acute appendicitis gives only a slight leukocytosis. And again I remember cases where the leukocyte count is very high and the operator removes a normal appendix. A well-trained, well-educated palpatory sense and an intelligent investigative subjective history remain the sheet anchors in early diagnosis, and early diagnosis is the avenue to surgical success in acute abdominal conditions. It is the avenue to low mortality and to a lessened morbidity.

I hope Dr. Hertzler, in his final remarks, will touch more upon the detailed portion of his paper, as it is most instructive and interesting. If he does not, I commend it to you when the paper is published.

Dr. D. I. Hirsch (Monroe, La.): The classification of the peritoneal and non-peritoneal conditions of the abdomen brings back a classification in the study of intestinal obstruction some years ago. I have observed simple obstruction of the intestines without acute symptoms for twenty-four to forty-eight hours after signs of obstructions. In classifying intestinal obstruction I use the term strangulation in order to avoid confusion with the condition of thrombosis of the mesenteric vessels.

Another point with reference to the appendix. Dr. Hertzler says he would rather keep his than take a chance with any surgeon. I understand that the mortality in appendicitis has not lessened in twenty years. May I ask Dr. Hertzler which ones to take out and which ones to leave in?

Dr. Arthur E. Hertzler (closing): In answer to Dr. Hirsch's question first. I will say that if the patient has the services of a good surgeon like you and I, all of them should be operated on. I would certainly qualify that in the late peritonitis cases where the patient looks like a balloon and is in an apparently hopeless condition. To such cases it is best to leave them alone because the distended intestines are doing a good job of walling off and if you open the abdomen you increase the rate of absorption.

The question of the non-peritoneal type, I rather like the terms strangulation and vascular disturbance mentioned by Dr. Maes. I am also going to hitch those up with my thrombotic scheme, but I am going to keep my pet. The point is well taken; you have the pains before the thrombosis, you have vascular disturbance which causes exudation.

HERNIA OF OVARY AND FALLOPIAN TUBE.*

ISIDORE COHN, M. D.,†

NEW ORLEANS.

The object of this paper is to place on record a case of an inguinal hernia in a female child six months of age.

The features of the case which prompt placing it on record are: (1) the age of the patient; (2) the content of the sac; (3) and the diagnosis.

The following is a brief account of the case with the operative findings:

April 14, 1925. Baby G., age six months. Diagnosis: Incarcerated inguinal hernia. Final diagnosis: Strangulated inguinal hernia, right ovary and tube with twisted pedicle in sac.

Present Illness: The baby's bowels have not acted for 36 hours and her temperature has been going up steadily during this time. A mass has appeared in the right groin since the onset. The baby seems to be suffering a great deal especially when this mass is touched. The onset of trouble has not been preceded by any prodimata as far as the mother knows.

Past history: The child was full time, normal delivery. Dr. Maud Loeber, who kindly referred the patient, told me that the child had been in good health prior to the present time. The mother had trouble with her breasts, and the baby was weaned at about three months.

Physical Examination: Well developed and well nourished baby, apparently suffering quite a bit of pain. The general appearance is excellent. The child is very fat, especially about the limbs. The head and neck are apparently negative. No teeth. The gums are normal. The lungs are clear, there being no rales heard. The heart rate

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is rapid but no murmur can be detected. The abdomen is distended and tender to the touch. The slightest palpation causes the baby to cry. No organs can be felt. In the right inguinal region there is a mass about the size of a pigeon's egg which is slightly fluctuant. There is no impulse imparted to the finger. There is an apparent neck of the tumor at the internal ring. The mass is movable slightly in all directions over the deeper structures. The labia on the right side is red and swollen. The skin is edematous, but not adherent to the mass. Rectal examination reveals nothing of note. The extremities are negative, but are very fat.

Operative record: An incision about 3½ inches long was made over the mass. As soon as a large amount of fat was divided, we saw a small globular mass about one inch in diameter which had a thin wall and presented a dark bluish appearance. This was dissected away from the surrounding tissue so as entirely to isolate the mass. The constricting band at the internal ring was incised and the aponeurosis of the external oblique was incised for about one inch. Immediately there was a retraction of the muscles and then the sac was opened. We saw a black solid organ which seemed to be pedunculated, the pedicle being twisted like a corkscrew. To the left of the mass there was an organ which we were not able to identify for the moment. After examination of the solid organ which was outside of the cavity, we realized that it was the right ovary and tube with a twisted pedicle, the pedicle being twisted about 5-6 times on itself. The ovary and tube were then removed by ligating the infundibulo pelvic ligament and ligating at the uterine cornu. After this had been done, however, the uterus did not return to the abdomen and it was found that the round ligament was very short and adherent to the sac. It was necessary therefore to cut this between ligatures. The uterus was then dropped back into the caviety without further difficulty. The hernial opening into the peritoneum was closed and two sutures approximated the transversalis fascia. The further repair of the abdominal wall was done after the Bassini method.

Progress record:

4/14/25. Admitted this afternoon and operated upon immediately by Dr. Cohn.

4/15/25. Temperature 102. Bowels acted. Some swelling of vulva.

4/17/25. Abdomen soft. Bowels acting. No nausea nor vomiting since operation. No sedative for pain since first night. The edema of the right labia has practically disappeared.

4/19/25. Wound dry. Dressing changed. Allowed to go home.

Laboratory findings: Specimen: Hernia, tube and ovary. Tube measures 3 cm. by ½ cm. by 1 cm. Deep red in color and flabby in consistency. Course is straight. Fimbriated end is found patent. Ovary measures 3 cm. by 1½ cm. by 1 cm. Outer surface is smooth and glistening, deep red in color, and flabby in consistency. Incision, which offers small amount of resistance to the knife, shows the cut surface which is deep purple in color with light pink in color. Attached to the tissue between the tube and ovary is a small solid structure tubal in character measuring 4 cm. in length ½ cm. in width. Outer surface is covered by peritoneum and is flabby in consistency, deep red in color. Diagnosis: Extensive hemorrhage in ovary, otherwise negative.

Inguinal hernias in females are rare when compared to the same conditions in males.

In 1912 Wm. B. Coley and J. P. Hoguet reviewed 8589 hernias of all types operated either by them or under their supervision at the Hospital for Ruptured and Crippled, and other institutions in New York. Of 6090 of these cases there were 369 in adult females and 690 in female choldren. Of the 2037 remaining inguinal hernia cases there were 182 in females.

In the Coley series the ovary and tube were found in nine cases; tube alone in four; and the ovary alone in four cases.

In a personal communication, under date of August 5th, 1925, Dr. Coley stated "that the only case of a strangulated hernia in which a strangulated fallopian tube was found in the right femoral sac was in a woman 30 years of age."

He further states "I have never seen a case of ovary and tube in a strangulated hernia in a child as young as your patient. I believe there are few such cases reported in the literature, and I think you ought, by all means, to publish your case."

At Touro Infirmary during a three years period, 1924 to 1926 inclusive, there were 671 hernias of all varieties operated. 144 were females and of these only three were under two years of age.

There were four hernias in which the contents of the sac are recorded to have been ovary and tube.

The patient, 6 months, author's case, contained the ovary and tube strangulated by a twisted pedicle. The ovary was hemorrhagic.

One case 3½ years of age, another 25 years, and the fourth 34 years.

The contents of the sac in the majority of oblique inguinal hernias, as is generally known, is the omentum, intestines and in a relatively small proportion even in a large series, do we find a genital organ.

In 1912, Dr. Paul Heineck reviewed the literature of hernias of ovary and fallopian tube in two extensive articles. He found forty-eight cases of inguinal hernia in individuals under five months in which the sacs contained genital organs.

Hernial sacs containing tube and ovary are more frequent than either tube or ovary alone.

Since Heineck's review of the literature the following cases have been found:

The youngest case on record which was operated on was eleven weeks.

Cuff (1918) reported the following case in detail:

"A child, aged 12 weeks, was brought to the Tynemouth Jubilee Infirmary, North Shields, on account of a painful swelling in the right groin which it was stated, had been present since birth, and increased considerably in size on coughing or other exertion. A small elastic swelling about the size of a pigeon's egg was noted in the right inguinal region; it was dull on percussion, expansile and reducible. A diagnosis of hydrocele of the canal of Nuck was made."

"A small incision, parallel to Poupart's ligament, was made, and the sac, which was firmly adherent to the round ligament near its fundus, opened. It contained a small quantity of pale straw-colored fluid; the right tube and ovary were adherent just beyond the neck. There were several small petechial hemorrhages. The adhesions were separated by gauge dissection and the ovary and tube replaced. The sac was ligated with catgut and removed, and the wound closed in the usual manner. The child was allowed to go home with its mother after the operation, a collodion dressing being applied. Recovery was uninterrupted."

George Mueller, 1918, reported a child five months of age with an acute strangulated tube and ovary on the left side. A salpingo-oophorectomy was done. Five weeks later a hernia occurred on the right side containing the tube and ovary. He was able to replace the contents within the abdomen.

In 1920 Ludington operated on the following patient:

"V. S., female child aged nineteen months. About a month after birth swelling was first noticed by the mother over the left external inguinal ring. This swelling remained constant in size, and did not disappear when the child was asleep. No truss was applied."

"The child first came under the observation of Dr. Smirnow, who failed in several attempts to reduce the sac. He noted the hard nodular character of the mass and inclined to the diagnosis of a cyst under tension. The examination showed a symmetrical swelling over the external inguinal ring the size of a silver dollar, not adherent to the superficial tissues and freely movable on the deep structures. It was dull to percussion and gave only a suggestion of an impulse when the child cried vigorously. To palpation, the mass under the skin was hard and nodular, apparently not very sensitive, and refused to yield to taxis. In spite of the history of irreducibility and the absence of a history of vomiting, I felt that it was probably an omental hernia.

"At operation the sac was found to contain the uterus, both tubes, both ovaries, the broad ligament, and a small knuckle of gut presented itself during the procedure. The presence of the ovaries lying close to the uterus gave the nodular sensation which was found on examination. The deep epigastric artery was seen on the mesial side of the sac, which should therefore be classed as an indirect hernia. The sac was intimately adherent to the cremaster fibres and infundibleform fibres. I believe the hernia was congenital. The operation was a routine herniotomy. The convalescence was uneventful."

Eustace and McNealy record a case of strangulated inguinal hernia of the ovary and the tube in an infant of 6 months. The right labium majus was red, swollen, tender, and pitted on pressure. There was no fluctuation or pulsation in the mass. At operation a torsion of the tube and ovary of

180 degrees was found. The adnexa were resected and the child made an uneventful recovery.

In 1923 Hewitt reviewed the literature and he was able to add 10 cases to those which had been reported by Heineck. The total number of cases which Hewitt could find in the literature amounted to 411.

In 1924 Simmons reported "a female child, aged three, whose mother stated that a small lump had appeared and persisted in the groin for about a year. On examination a movable oval tumor, about half an inch in length and a quarter of an inch in width, was felt at about the position of the right external ring. It rolled easily under the skin, but could not be moved over the deep structures. There appeared to be a slight impulse on crying.

"The child was admitted and the inguinal canal explored by Mr. A. J. R. O'Brien. A hernial sac was found and when opened the tumor proved to be the ovary. An elongated extension of the broad ligament was present, and at about the middle of this a thickened band was adherent to the sac. This was freed, when the ovary slipped easily back into the abdomen. The sac was excised and recovery has been uneventful."

Dr. John Wesley Long reported a child aged 3½ months in which the sac contained uterus, tubes, and ovaries. An uneventful recovery followed the operation.

Dr. Harper, of Selma, Alabama, reported a child aged 4 or 5 months, with strangulated ovary resulting in recovery.

According to Heineck there is a relative frequency of these hernias during the first year of life, then a gradual decline from the first to the fifteenth year; the maximum is noted during the fourth decade.

In regard to the etiology of these cases one immediately is confronted with the theory of the origin of inguinal hernia in general. All are familiar with Russel's (Australia) ideas—that indirect inguinal hernias are congenital in origin, that is, in practically all cases. This attitude has been, I believe, largely accepted in America if one takes the works of Coley and his associates as authoritative criteria.

On the other hand you are familiar with Arthur Keith's opinion. He considers many hernias the result of a defect in the normal "shutter mechanism" of the muscles of the abdominal wall.

In this particular paper and in the group of cases under consideration, that is, indirect inguinal hernias in children, the weakness of the abdominal wall and the increased intra-abdominal pressure does not enter into consideration. I believe that we must take for granted that practically all of them are due to congenital factors, particularly the persistence of the canal of Nuck.

In adult life one would probably have to consider many factors; these have been summarized by Heineck. Those interested in the subject, as it applies to adults, will profit by reference to his article.

As a rule these cases are unilateral.

The hernial sac may contain tube alone or both tube and ovary. The genital organs are recorded as having been normal, lying free in the sac or they may be adherent to the sac; or there may be a hemorrhagic condition of the organs in the sac. A twisted pedicle, such as was found in our case, is not an unusual finding in tubo-ovarian hernias.

Heineck stated that this condition is generally found in irreducible genital hernias in the inguinal region, and Watson emphasizes its frequency in children under two years of age.

Although these cases are infrequent there are enough of them on record to make it necessary for every surgeon to keep this particular type of sac content in mind. This is particularly true when one considers the fact that early operation, if the nature of the sac is suspected, may enable one to save an ovary which would of necessity be sacrificed by continued interference with its circulation.

Lejars says that "These hernias are almost always surprises."

Hewit states " that hernia of the ovary in young children should not be difficult

to diagnose, the diagnosis is more than suggested by the fact that these hernias are usually irreducible and when irreducible the ovary and tubes may be easily felt."

This is a particularly interesting statement, and it may be absolutely true immediately after incarceration has taken place, but after there has been a transudation of bloody serum into the sac it is difficult to see how the outlines of the solid organ can be made out. Certainly we could not make out a solid organ in the mass in our case. Reference to our records does show that there was a mass about the size of a pigeon's egg which was slightly fluctuant. It was also tender and soft.

In regard to diagnosis of hernia of the ovary and tube Watson reminds us that these organs, as a result of the presence in the sac of an inguinal hernia, are naturally exposed to trauma and strangulation. The symptoms are "indefinite crying, restlessness and irritability. Vomiting and tympanites are rare. There is an irreducible tumor in the hernial region which is swollen, tender, and painful."

DIAGNOSIS.

In summarizing the opinions, which we have found in the literature, it would seem that little difficulty should be experienced in arriving at a correct diagnosis. I believe that one might readily admit this if the child from birth has had a protrusion in the inguinal region and the contents of the sac has been palpable prior to a strangulation.

Under these conditions the presence of a solid organ in the female in the hernial sac would naturally suggest the presence of an ovary, but when the swelling in the groin has appeared suddenly, and this swelling is irreducible and there is an associated distension of the abdomen, the possibility of incarceration of the intestines cannot be avoided or overlooked.

In these cases, that is, strangulated ovarian hernias, the acute toxemia of intestinal obstruction is absent.

Blood chemistry may help in making a differential diagnosis particularly if there is a high carbon dioxid and a low chlorid content.

It should be suggested here, however, that operation should not be delayed until this determination has been made. The two may be done coincidentally.

The treatment is surgical. Operation is imperative in irreducible inguinal hernias irrespective of the contents of the sac. In hernias of the ovary and the tube the imperative indication lies in the fact that with prolonged strangulation the torsion, which exists in the pedicle, will interfere wit the blood supply to such an extent that it will be necessary to remove the tube and ovary if they are both contained in the sac. If on the other hand operation is done before this time it may be possible to return the organs to the abdomen and treat the hernia as one would any other hernia.

It is important, of course, to save an ovary wherever possible. This is hardly a necessary statement, but it, nevertheless, can do no harm to repeat.

A very unusual report was returned by the pathologist in this case. He states that he found graafian follicles in the excised ovary.

SUMMARY.

1. This paper records a strangulated hernia in a female child six months of age. The sac contained an ovary and tube with a twisted pedicle.

2. Pre-operative diagnosis was a strangulated inguinal hernia.

3. Graafian follicles were found by the pathologist.

4. Reference to the literature proves that tubo-ovarian hernias in children under two years are not uncommon.

During the past three years, four cases of inguinal hernias in the female have been operated on in which the contents of the sac

were ovary and tube. The present case is the only one under six months of age.

Infrequency at this time of life is suggested in the literature, by the fact that Wm. B. Coley has not seen a patient that young with a strangulation of the tube and ovary.

It is desirable when hernias in female children are irreducible to operate early. If there is any suggestion of a solid organ attempts to manipulate and reduce by taxis are distinctly contraindicated.

Whereever possible the ovary should not be sacrificed.

DISCUSSION.

Dr. John Dicks (New Orleans): Dr. Cohn is certainly fortunate to have a case of this kind to report, of which he says there are 411 cases recorded in the literature. When I was asked to open this discussion I considered the condition very rare, so rare in fact that it was almost a medical curiosity, but after looking up the statistics I found that it is not as infrequent as one might think and one doing surgery should bear in mind the possibility of this particular sac content. The interesting points of Dr. Cohn's paper are the age of the patient, the twisted pedicle and the pathologist's report. He confines his remarks to herniation of the ovary in infants, but has said nothing of this condition in the adult. The earliest record of a case of hernia of the ovary in an adult was reported in 97 A. D.

Hernia is more frequent on the right side than on the left. It is about six times less frequent in the female than in the male, but the reasons for this are quite apparent: the canal of Nuck is less patent than the inguinal canal in the male; the round ligament is less bulky than the corresponding structures in the male, the internal ring in the female is higher up than in the male. Also, the female is subjected to less strain than the male.

Dr. Cohn has worked this case up in detail and as usual has brought the literature up to the minute. He certainly deserves the thanks of this section.

Dr. P. Graffagnino (New Orleans): Whenever Dr. Cohn presents a subject he is so concise, so thorough, that there is usually little left for the discussants of his paper to add. Dr. Dicks has covered the other points as thoroughly as possible, so I will merely present, in abstract, two recent cases of hernia of the ovary operated upon at Charity Hospital within a year.

First Case: A child of five, ruptured since birth, was admitted to the hospital for the repair of a gradually enlarging left inguinal hernia. A full term baby, normal delivery, who had never been seriously ill, although she had experienced the usual diseases of childhood. The physical examination revealed a well developed and nourished female child with the findings entirely negative except for an easily reducible left inguinal hernia. No laboratory examinations were made. The tentative diagnosis was congenital inguinal hernia, left side.

Hernioplasty was done under ether anesthesia. An incision was made parallel to Poupart's ligament over the inguinal ring. A good deal of hemorrhage was encountered. The sac isolated, opened, and the contents, consisting of the left tube and ovary were found adherent to the sac; these were dissected free with great difficulty. All the raw surfaces were sutured over, the ovary and tube replaced in the abdomen and the sac ligated with No. 1 chromic, the same material being used for the fascia. The skin was approximated with silkworm gut.

Convalescence was uneventful and the treatment routine. No prolonged high temperature, either vomiting, wound infection or other postoperative complication retarded the patient's progress. When the patient was discharged, the wound was well cicatrized and she was in excellent condition.

Second Case: A white female of forty-five who complained of headaches, pains in the lower abdomen and dysmenorrhea, recently came under my observation at Charity Hospital. Except for this menstrual irregularity, both as to interval and duration, dating from menarche, her history up to two years ago was uneventful. She had "never been seriously ill," "had had three pregnancies, all normal deliveries." In 1925 she was operated on for appendicitis and uterine displacement. From this time her menses were always painful. In 1926 a second operation was performed for post-operative adhesions and ventral hernia. Subsequently, she felt well in every way for nine months, although the hernia recurred after the sixth month and steadily increased in size. Three months ago she started vomiting in the morning, as during pregnancy, and experienced discomfort from gas and indefinite, generalized abdominal pain, at times cramp-like in character.

The examination revealed a moderately well developed and nourished female, with the following abnormal findings: Tenderness (not well localized) of the lower abdomen on palpation,

with a definite herniation two or three inches to the right of the incision and just above Poupart's ligament, increased on coughing and replaceable. Vaginally, a small, hard, movable uterus could be palpated and tenderness was elicited on each side of the pelvis. The perineum was relaxed and a marked cystocele was present. The Wassermann reaction was negative. The urine was negative. A kidney functional test was normal.

On February 21, 1927, under general anesthesia, I did a modified Hegar's perineorrhaphy first, then a laparotomy. A transverse abdominal incision was made about four inches below the umbilicus, extending from the outer edge of the rectus muscle on one side to the opposite side, the fascia was opened in the same direction, the muscles exposed, separated, and the peritoneal cavity opened longitudinally. The omentum was adherent to the upper line of the incision and the gall-bladder and transverse colon were being drawn down by these omental adhesions. Although covered by adhesions, the gall-bladder emptied readily. The adhesions were liberated.

Pelvic exploration showed the uterus attached to the anterior abdominal wall; on the right side the ligament had been brought through the abdominal cavity, carrying with it the tube and part of the ovary. A large hernia existed at this point where the tube, part of the ovary, and ligament had been brought through the peritoneum. A rapid supravaginal hysterectomy was performed, removing both tubes and ovaries. The adnexa were normal, but as the patient was forty-five years of age I felt that this work could be done quicker in this way. The hernial opening was closed from within with interrupted catgut sutures and the abdominal incision closed as per routine. The rectus fascia was then overlapped and sutured and the skin closed with silkworm gut.

The microscopic examination on the uterus and adnexa was: Leiomymoa of uterus—hyperplastic and cystic endometritis—chronic exudative and proliferative salpingitis—follicular cysts (serous and hemorrhagic) of ovary.

A very smooth convalescence followed after the first seventy-two hours, during which there was complaint of discomfort and pain due to abdominal distension, which was relieved in the usual way. The highest temperature elevation was 100.2° and the patient was absolutely afebrile after the third day. When allowed to go home on the thirteenth post-operative day, her condition was good. Three weeks later she returned to the follow-up clinic. An examination showed a good operative result, the perineorrhaphy in good condition, the vault of the vagina held well in position, and the abdominal wound tightly sealed.

The case is most unusual, and it is the only one I have ever seen. In looking up the literature on the subject I could not find a parallel instance. Apparently the round ligament was crossed through at, or near the internal ring, and this new opening gradually enlarged until the round ligament, tube and ovary herniated.

Dr. C. H. Mosely (Monroe, La.): I operated on a woman some six or seven years ago, a very old woman past the menopause, with a strangulated hernia of the left tube and ovary. I did not know it was of such infrequent occurrence until sometime shortly after her death when I was discussing some part of the surgery with a doctor associated with us in Riverside Sanitarium who had a similar case. It was then I learned of its rarity.

Dr. Isidore Cohn (Closing): I appreciate and thank each one for his discussion. In closing I would like to call attention to three things, the importance of blood chemistry, of early diagnosis and of early operation. Dr. George Mueller, in 1918, recorded a case of double hernia in a child of six months. He operated on one side and found the ovary in the sac, which he saved. Five weeks later he operated on the other side and found the tube and ovary in the sac, which he was also able to save. If he had not operated early that patient might have gone through life without developing.

Another thing is the importance of blood chemistry in these cases to see whether the patient has evidence of intestinal toxemia, because there may be an associated herniation of the bowel, in which event the indication is clear. In these cases we may have acidosis. Make your diagnosis early and save as many ovaries as you can.

THE ACTIVE PRINCIPLES OF THE POSTERIOR LOBE OF THE PITUITARY GLAND. I. The Demonstration of the Presence of Two Active Principles. II. The Separation of the Two Principles and their Concentration in the Form of Potent Solid Preparations.—From the Research Laboratories of Parke, Davis and Company there comes an interesting publication by Kamm, Aldrich, Grote, Rowe and Bugbee. They show that the posterior lobe of the pituitary gland contains two important active principles. One raising blood pressure, another contracts uterine muscles. It is possible to practically entirely separate these two active principles by method devised by the authors. Pressor principle has been obtained in the form of a white soluble powder and the more important oxytocic principle in the form of a soluble water powder 150 times as potent as the important standard powdered pituitary. The separation of a pure hormonic principle of a glandular substance permits a thorough investigation of the chemical nature of the hormone and a thorough study of their physiological properties, much as has been done with insulin and thyroxism.—J. A. Chem. Soc., 50:573, 1928.

CERTAIN PHASES OF GALLBLADDER FUNCTION—THEIR CLINICAL VALUE.*

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AND

LEON J. MENVILLLE, M. D.,

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The very recent advancements in our knowledge of gallbladder function have been derived from studies of the visualized organ. Initially it was the behavior of the gallbladder shadow, produced on the roentgen-ray film, after the administration of opaque dye substances, which afforded the information. Subsequently the action of the gallbladder shadow under the influence of various drugs and foods administered to man taught us more regarding this important biliary vesicle. By analagous methods of utilizing the roentgenray to demonstrate the gallbladder, physiologic experiments on animals have also convincingly proven that the gallbladder is capable of emptying. Witness the work of Whitaker with his lipiodol injection method. The physiologic observations on the animal operated under local anesthesia by Higgins and Mann, are almost revolutionary. These authors find that not only does the gallbladder empty but it does so through the contraction of its own intrinsic musculature. The purpose of this communication is to discuss the clinical application of this knowledge of gallbladder function, taking into consideration some important phases of diagnosis and treatment. In this respect the examination of biliary contents, including, in certain cases, bile derived from the gallbladder itself, plays an important role.

Following the announcement of Graham and his coworkers that they had been able to visualize the gallbladder by the use of dyes, the writers were able to determine that the gallbladder could empty following the introduction of magnesium sulphate solution into the duodenum. However, it was later observed by ourselves that repeated injections of the drug were required to really produce marked reduction in the size of the shadow. It was noted that a very much darker and concentrated bile was obtained from the duodenum when the gallbladder reacted and emptied. These findings in part confirmed the contention of Lyon that the darker bile comes from the gallbladder. Whitaker, Boyden and others demonstrated that the ingestion of fat by mouth produced rapid emptying of the gallbladder as evidenced by marked reduction or disappearance of the shadow. Graham states that the simple procedure of administering fat is very much more effective in emptying the gallbladder than the more complicated one of using magnesium sulphate by the Meltzer-Lyon method. He then goes on to say that the additional evidence that bile passes out through the cystic duct is derived from the finding of the thick dark gallbladder bile by the Lyon method. For the very reason that this constituent of the bile may be obtained for analyses one is justified in utilizing the duodenal procedure. Furthermore the constant feeding of fat in certain types of gallbladder disease (cholesterosis of Mentzer) is contraindicated.

How, then, can duodenobiliary drainage with the additional knowledge of cholecystography be of practical value in the diagnosis of biliary disease? According to Mateer and Henderson, in performing a duodenobiliary drainage a microscopic examination of the fasting gastric and duodenal contents should always be carried out as a control for the interpretation of the bile examination. These authors believe that the finding in the bile of bile stained pus cells and bile stained colonies of bacteria, when other sources have been excluded, affords direct evidence of a chronic cholangeitis (probably involving the common bile duct) and indirect evidence of some degree of cholecystitis. In the experience of Jones a careful

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examination of a large number of sediments of duodenal contents has shown that certain features may be of diagnostic significance. Bile stained leukocytes and epithelial cells in any quantity do occur in the presence of an inflammatory condition involving the biliary tract. The finding of abnormal amounts of cholesterin, bilirubin or calcium bilirubinate has been of real diagnostic value.

Piersol, Bockus and Shay in a critical review of the diagnostic data obtained from a large series of advanced gallbladder disease proven by operation, devoted particular attention to the examination of bile obtained through duodenal tube by the Lyon-Meltzer method. The gross examination of bile obtained by this method proves of considerable importance in estimating the function of the gallbladder. These writers state that cholecystographic study in conjunction with bile drainage constitute an almost infallible diagnostic team in gallbladder disease.

While some gallbladders do visualize and even retain the function of drainage, the shadow may be so distorted from intrinsic disease such as stones or a few adhesions that the organ is immediately recognizable as requiring surgery. On the other hand, however, numerous cases of chronic low-grade biliary tract infection present no interference with gallbladder outline or function and fall within the realm of medical treatment.

Relative to the therapy of some of our cases of gallbladded disease, it is still unsatisfactory. There are certain types of gallbladders where no matter how badly diseased they are intrinsically operative surgery does not afford relief. This is the type of gallbladder that we see in women past middle age, usually having started with their gastro-intestinal symptoms during or after pregnancy. Those cases are described as being due to a disturbance in mentabolism, an excess of fat in the blood, particularly cholesterol. The removal of the gallbladder alone or the stones does not afford relief and medical treatment has to be instituted, principally involving low fat diet.

Plummer recently described a type of gallbladder of considerable interest, usually found in women complaining of right upper abdominal pain with gastric symptoms. These women he describes have very fine hair and are lovers of music. The examination reveals that there is a low basal metabolism. He thinks there is some connection between the disturbed biliary apparatus and the thyroid and institutes the use of thyroid in the treatment of these cases in addition to the measures directed to the gastro-intestinal tract.

DISCUSSION.

Dr. D. C. Browne (New Orleans): Dr. Silverman has focused our attention on a subject which has in the last few months undergone considerable revolution. A crystallization of our thoughts at this particular time is well taken. There is a tendency to adopt every new diagnostic method without first an attempt to establish the true relationship of one diagnostic procedure with another, or to compare their relative value.

First, I wish to say that to these workers, Dr. Silverman and Dr. Menville, certainly are to be given the credit for having first demonstrated radiographically the changes which occur in the gallbladder following the administration of magnesium sulphate intraduodenally. The subsequent work which Dr. Silverman speaks of only serves to strengthen their original conclusions.

I would like to call attention to one or two points. First,with reference to the gallbladder visualization and the method we are using at the present time; this is by no means a fixed procedure. Neither are the results as consistent as many practitioners have been led to believe.

The oral administration of the tetra-iodid phenol phthalein is quite extensively used now, though it has not, in our experience, been satisfactory. The absorption varies somewhat in the individual, and there are many instances of complete failure of visualization, even though the capsules have been dissolved. However, if these patients are given the dye intravenously, you will find that a considerable percentage will have a fairly good visualization. This only means that the present method of cholecystography is not standardized, and that the liver function itself may play a role. In either event, a diagnosis of cholecystitis or

biliary tract infection is never justified wihout a careful study of fresh biliary drainage. To me this gives those who are experienced in studying these contents a better idea than simply a cholecystograph.

It is true that there are certain cases which fall distinctly in the surgical field and it is in this differentiation that careful diagnostic methods either lend success or failure in the treatment. In the instance of common duct obstruction it is of vast importance to determine whether the pancreatic enzymes are functioning. This may serve to localize the obstruction. In chronic biliary tract disease, cholecystectomy may remove that part resident in the gallbladder itself, and break that part of the viscious circle, but beyond this non-surgical regime proves far more efficient if carried out under proper control. It is often amazing the quantity of bile that can be drained from the liver and common duct by the continuous method, using magnesium sulphate. Administration of fat as a therapeutic measure in biliary tract disease, I agree, is not advisable. The simple contraction and emptying of the gallbladder does not answer the question of therapy in chronic biliary tract disease.

Dr. S. J. Menville (New Orleans): The visualized gallbladder by means of the Graham and Cole method, by either the oral or intravenous administration of the sodium salt of tetraidophenolphthalein has been a remarkable advancement in modern diagnosis. The reports emanating from authorities all over the world bear testimony to its usefulness. We are able to study the visualized gallbladder in a similar manner to the gastrointestinal tract. Noting its position, size, shape, contour and also noting the effect of digestion as evidenced by a reduction in size of this organ. Of importance is the study of the appearance and emptying time of the dye, deriving the same information as the P. S. T. test, with which you are all familiar.

The intraoral route of administration of the dye is reliable if proper care is exercised. and in the case of a non-visualized gallbladder, before a diagnosis is made, we must be certain that the patient has retained the capsules and that they have properly dissolved. In those instances where some doubt may exist as to the diagnosis, the intravenous method may be employed. The intravenous administration of the dye should be done by one familiar with intravenous therapy. A certain amount of reaction may follow the intravenous administration which would prohibit the indiscriminate use of this method.

Dr. D. N. Silverman (New Orleans) (in closing): I just want to say a word. I agree with Dr. Browne that a diagnosis of gallbladder disease, especially to such an extent that the gallbladder will not visualize by the oral method is certainly not justified unless, as Dr. Menville has stated, an intravenous injection is given. It is surprising the number of cases that repeatedly will have the pills of tetraiodophenolphthalein given by mouth without visualization of the gallbladder, and subsequently one intravenous injection of the dye will not only bring the gallbladder out but the report will come back that the shadow of the gallbladder is perfectly normal.

THE ROLE OF THE PRIVATE PRACTITIONER IN A COUNTY HEALTH PROGRAM.*

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The writer presumes to discuss the above subject feeling that no person is in a more advantageous position to observe and unbiasedly analyze the attitudes and actions of the private practitioners than is the full-time health officer. The latter is indeed one of the guild, enabled by study, training, and frequently personal experience, to appreciate professional statements and actions; but is at the same time an outside observer unhampered by personal interests.

There are in Mississippi twenty counties maintaining full-time health departments of greater or less personnel and budgetary support. The other counties are served by part-time health officers, the majority of whom are carrying on county-wide health programs of varying intensity and scope. Therefore, at this time the question of the relationship of the private practitioners to county health programs is exceedingly pertinent.

Year by year the science of our profession has widened and intensified with amazing rapidity; at the same time dividing itself into a number of fields of special endeavor. In fact we are wont to speak of

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the present period of the age of specialties in medicine. As has been true of every branch of our profession, preventive medicine had its period of development and uncertainties,—if you please, its experimental state,—during which mistakes were made, efforts and money wasted, and disappointments and reverses experienced; but withal a period of progress and triumphs adding many brilliant chapters to the archives of science. However, unlike many branches of medicine, it has included both in spirit and practice, practically every other branch of the science; until now every member of the profession wherever and whenever possible invokes methods of prevention among his clientel. The latter is, at this time, another great factor in the pertinency of the subject of the relation of the private practitioner to health work.

Pertinent though the subject is, it is not the object of the essay to enter into a discussion of the details of the matter. Indeed time does not permit such for the subject is a large one whose full discussion would require a treatise of great length; and in addition its several phases have been dealt with at length on varied occasions—on the convention floor of this association, in the professional and lay press, and otherwise. It is the desire of the writer to merely call to the attention of the association certain generalities of the subject.

Neither is it the purpose of the essay to deal with policies of organized health work; such indeed is neither within the capability nor within the authority of the writer. It might well be said here, however, that two outstanding desires exist with every full-time health worker in our state; desires that are at the same time personal and official; namely—that health work shall not encroach upon the field of, nor in any way abridge, the rights of the private practitioner; and secondly, that the private practitioners of our state shall feel that preventive medicine, as practiced here, deserves and is worthy of their whole-hearted sympathy, support and co-operation. On the part of the various health organizations of our state, the writer feels justified in pledging every effort to the perpetuation of the above ideals.

Among full-time health officers there is frequently used the following expression—"the doctors of a county can not always make a health department, but they can break one any time they choose." The humble opinion of the writer is that there is no single factor making more for the success or failure of a county health program than the attitude and actions of the private practitioners of the county.

Of the several factors entering into the making of this situation, the most important and potent is the psychology of the average layman toward his family physician. No person enters the home or receives at his office enjoying as much confidence or wielding as much influence as the loved and trusted family physician. It is unquestionably true that his influence is the most potent one entering the family life, the clergy and priesthood not excepted. This idea is neither new nor original, but is mentioned here because it is the keynote of the physicians' highly potential influence on a county health program.

Every county-wide health program embraces one or more, or all of the following phases of health work: control of communicable diseases, sanitation, child welfare, and education. For the purpose of illustration, the writer will cite a few concrete examples of the influence of local physicians on each of these phases of health promotion activities.

Aside from the matter of reporting reportable diseases, a question which is constantly being discussed by proper authorities, the local practitioners' influence is most keenly felt by the health officer in enforcing quarantine and the use of specific vaccines. Let it be understood that the writer does not intimate that we have any physicians who would willfully make trouble for the health worker; however, a

few physicians thoughtlessly make the work harder by expressing to the laymen their differing in opinion with the health officer without first talking the matter over with the latter. It frequently happens that the health officer excludes a child from school on account of a communicble disease; and the family physician not concuring in the diagnosis or in the health officer's opinion as to the danger involved, so informs the parents, thereby causing hard feelings toward and criticism of the health officer. In many cases, of course, the health officer is in error; however, it seems only logical and fair that the family physician give him the same courtesy of consultation and respect for views which he would accord a brother practitioner. The writer has frequently had occasion to use a specific vaccine—particularly diphtheria and scarlet fever immunizing processes—in schools or communities where a large number of persons were exposed. The greatest obstacle encountered in such work was cases in which the parents on consulting the family physician received advice contrary to that given by the health officer. As a general rule the parents' statements to the physician about what the health officer had said were confused, and, therefore, here again was an occasion where a few minutes talk with the health officer would have been of immense benefit to the work and to the community.

In the matter of sanitation the health worker usually encounters his most difficult problem. Fortunate indeed is the health officer who has the undivided backing of his county physicians in this line of work. Here in this state excreta disposal betterment is the outstanding problem in sanitation and it is one which essentially requires every available influence and aid for its successful consummation. A favorable word from the family physician will install a sanitary mode of excreta disposal in the home more quickly and easily than an all-day interview with the health officer. When a health officer sets out to put over an excreta disposal campaign his success is guaranteed if every family physician will say a "good word" to his clientele about the matter.

In child welfare work the success of the program is likely more dependent on the private practitioners of the county than in any other phase of the work. There is likely no other type of work in which the layman is more apt to go to the family physician for advice, or for confirmation of the health officer's advice than in this line, and therefore the physician has the greater opportunity to determine the success or failure of the program. A word from the family physician is frequently more productive of good results than days of effort by the health officer or nurse. In baby conferences, school examintions, and other events in which a medical examination is given, the private practitioner can aid immensely by speaking favorably of the procedure, and if possible by giving a part of his own time and efforts in assisting with the actual work of the examinations. The latter is an item in promoting and encouraging the work for which there is no substitute.

It has been well said that 90 per cent of public health work is education. At this stage of public health development and activity the health worker has to attempt to bring to the laymen a message, scientific or quasi scientific in nature, which is frequently a new and unusual item of information as far as the average layman is concerned and one which he likely will receive with a pronounced skepticism. Here again a few words of confirmation and approval from the family physician will remove doubt and bring about a full acceptance of the health worker's teachings.

The above are only a very few of the many items in which the private practitioner can exercise his potent influence on health work in the county; there are many others of which time and space do not permit a discussion. They are cited merely to show that in every field of health promotion

endeavor the private practitioners can either give or withold from the program vital and essential co-operation and aid.

In view of the above discussed generalities and illustrations it might well be said that the role of the private practitioner in a county health program consists of the following types of co-operation:

First. A realization that the health worker and private practitioner have a common objective-service to mankind, and in rendering such a service the field of endeavor of each is peculiarly his own in most respects, but in other respects of necessity overlap to a certain degree; in the latter case a meeting and frank discussion as one physician with another will amiably and efficiently dispose of such problems as may arise. And a further realization that by virtue of this connection with the family life of his clientele the family physician holds an eminently stronger position in medical matters than does a health worker who is frequently a stranger or newcomer to the community, and therefore each and every family physician has therein an opportunity to broaden and render more effective his own service to humanity by encouraging and promoting the programs of organized preventive medicine.

Second. The use of a reasonable portion of his own time and talents in aiding the actual work. As has been intimated, a word of sympathy and support from the family physician; a word of explanation where he sees confusion in the mind of the layman; a consultation with the health officer when opinions differ; and finally an active participation in such events as public meetings, administrations of vaccines, medical examination of children with advice and co-operation in the matter of correcting defects, are highly potent and supremely valuable aids to the program.

Third. The acceptance of the health officer as a brother physician who is worthy of, sincerely desires, and is entitled to the rights and privileges of consultation and co-operation which the ethics of our profession prescribe.

CONTROL OF CONTAGIOUS DISEASES IN CHILDREN.*

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No matter what kind of a fire department a city has its efficiency depends upon the notification it gets of the fire and its ability to get to the scene before the fire spreads; so in the control of communicable diseases.

The backbone of the control of communicable diseases is the immediate notification of the existence of the disease and the quick response of the health officer in putting into effect the machinery to limit the spread of such a disease. The state law is ideal. Paragraph 4847 of the code of 1917 reads as follows:

"Every practicing or licensed physician shall report immediately to the secretary of the State Board of Health every case of yellow fever, cholera, dengue, smallpox, or other virulent epidemic contagious diseases that occur within his practice, unless the State Board of Health shall otherwise direct. Any practicing or licensed physician, wilfully failing to report shall be guilty of a misdemeanor and upon conviction shall be punished as provided by law for misdemeanors."

By this law every practitioner is required to report contagious diseases immediately to the secretary of the Board of Health, unless otherwise instructed. The Board of Health has instructed the physicians of the state to report these diseases to their county health officers upon a clinical report card which gives the name, age, color, sex, and residence, together with the date of onset. So far as ideal notification is concerned, this fills the bill.

*Read before the Mississippi State Medical Association, Jackson, Mississippi, May 10-12, 1927.

Paragraph 4843 reads as follows:

"It is the duty of the county health officer to enforce the rules and regulations of the State Board of Health in the prevention and spread of all contagious, infectious or epidemic diseases in his county, to investigate and examine into the causes thereof, and to recommend rules and regulations to remedy the same."

This paragraph requires the county health officer to go at once to the patient so reported and put into effect the rules and regulations of the State Board of Health which are given him in pamphlet form. If these laws are carried out by the physicians and county health officers, it is almost impossible for contagious diseases to spread. If this was done promptly by every physician in the State of Mississippi the problem of the control of communicable diseases would be greatly lessened.

The regulations require that the county health officer indicate on the report card the date on which he has put into effect the rules and regulations of the State Board of Health, and these cards together with a summary report card, are mailed to the Bureau of Vital Statistics every Saturday night. From this information the statistics can be ideally kept. Valuable information can be given the physicians from time to time relative to the prevalence of these diseases and in what age groups they are occurring.

As the statistics which are used in the weekly telegraphic report to Washington have been compiled, these cards are sent to the Bureau of Communicable Diseases where each case of communicable disease is entered on the map by means of colored tacks. Therefore, the State Epidemiologist can see at a glance on his map the foci of the infection and he may visit any epidemic almost immediately and give assistance to the local health officer in controlling the same. If every one would appreciate the great advantage of this reporting system and would lend their support, then much of the time that is spent securing reports could be spent in getting data together which would be of great help to physicians. Much time could be spent in educational programs to the public, which would cause a greater number to go to their physicians to be vaccinated against these diseases.

In the educational program it is desirable to train the public that the vaccination against diseases should be routinely employed, and that the physician is just as responsible morally for the vaccination against smallpox and diphtheria as he is for putting the drops in the eyes of the new born.

After the acute infectious diseases give way, routine health examinations can be urged and thus the program of preventive medicine can be gotten over to the public. Every physician should hail the day when he will sit in his office and make more money with less effort from health examinations than he used to gain by driving over muddy roads to see sick patients.

CARRIERS.

It would be expected that a knowledge of the nature of communicable diseases and of their transmission would enable a health officer to prevent the development of all communicable diseases by the efficient control and treatment of every affected person. Health officers probably would be able to eradicate contagious diseases if they could know of the existence of every case. But refined methods of diagnosis, especially those of the laboratory, have shown that many persons in good health, carry and harbor disease germs in their bodies. These persons mingle freely with others without taking precautions against the spread of the germs. Well persons who harbor disease germs are called carriers. Persons who have communicable disease in such a mild form that they continue to mingle with other persons as usual, are also classed as carriers.

Disease germs in carriers are found in at least three locations: 1. In cavities,

such as the gall-bladder and the crypts of the tonsils, etc. 2. In the outer layers of the epithelium. 3. In abscesses, running sores, and discharging ears. In all of these locations the germs are outside of the flesh and blood, and yet in a position in which the conditions of food supply and warmth are favorable to their growth.

Most persons who are carriers are themselves proof against the disease. The defensive forces of their bodies are principally in the blood, and are able to overcome the germs wherever the blood flows. Blood is absent from the cavities of the body and from the outer layers of epithelium. Disease germs may, therefore, grow in these parts of the body without being able to penetrate the tissues or they may persist there after the blood has overcome them in the tissues.

The principal diseases which are spread by carriers are diphtheria, typhoid fever, scarlet fever, and epidemic cerebrospinal meningitis.

The number of carriers in a community is often considerable. Diphtheria carriers may probably be found in every village, and during an epidemic of the disease the number of carriers may be several times greater than the number of persons who are known to be sick with the disease. About 1 per cent of persons who have had typhoid fever continue to harbor germs of the disease for weeks or months after their recovery.

When an epidemic of a disease occurs there is likely to be a number of mild cases in whom the signs of the disease are vague and uncertain, or even almost absent. For example, many cases of sore throat are caused by unsuspected diphtheria or scarlet fever, and many stomach aches are due to unsuspected typhoid fever. Carriers and missed cases account for the infection of a very large proportion of those who have communicable diseases.

The danger from a carrier is the same as the danger from a person whom the germs have made sick. Carriers usually harbor fewer germs than the sick, but the lesser danger on account of the number of the germs is counterbalanced by the freedom with which carriers mingle with other persons.

The virulency of the germs in carriers is sometimes less than the virulency of germs in persons who have a disease in a severe form, but sometimes it is fully as great. A deadly form of scarlet fever is sometimes caught from a person who has had the disease in an extremely mild form. The virulent strain of diphtheria germs which are used by New York City laboratories was originally taken from a person who had only a mild sore throat.

Diphtheria carriers constitute the greatest number of carriers with whom a health officer has to deal. The danger from these carriers depends largely on whether or not the germs are virulent. The virulency of the germs may be determined by injecting a culture of the germs into a guinea-pig or other animal, and noting their poisonous effects. If the test shows that the germs are not virulent, the carrier is not considered dangerous.

The duty of a health officer is to discover carriers whenever he possibly can do so. His fourth duty is to control them so far as may be necessary. A health officer can choose between two measures: 1. He can subject carriers to quarantine and other procedures which are enforced against persons who are actually sick. Experience has shown that this extreme degree of control is seldom necessary or practical. 2. A health officer can advise carriers concerning the nature of their trouble and the means of preventing the germs from spreading to others, and he can keep them under supervision to see that they observe this advice. This is the proper method to adopt when the carrier is a reliable person.

The means of freeing carriers from their disease germs will be discussed in the description of the individual diseases. How to deal with carriers is one of the greatest problems which confronts a health officer. Carriers are not sick, and they often resent any interference with their liberty. The detection of disease germs in their bodies is usually by a laboratory test which the carriers cannot understand. They often ascribe measures of control to personal animosity on the part of the health officer. It is difficult to make people realize the danger from carriers, for they do not see how disease germs can grow in the body when the ordinary signs of sickness are absent. The control of carriers will remain unsatisfactory until people become educated concerning the problem.

What measures can the people take to protect themselves against the uncontrolled carriers which are in every community? The answer is that an observance of modern standards of cleanliness, decency, and the rules of polite society are usually efficient protections against infection. For example, typhus fever was common in the days when a louse on the body was considered no more disgrace than a fly is today. It disappeared when people began to consider it a disgrace to be lousy. People are fairly well protected from infection when they observe cleanliness of their persons, houses, and yards, and practice the customs of polite society regarding the contact of one person with another.

CONTACTS.

When persons have been exposed to communicable diseases, it is often a problem what control to exercise over them from the time of exposure until the onset of the sickness. Many cannot tell whether or not they have actually been exposed, and many who have been exposed do not contract the disease. The health officer will make his decision according to the following principles:

1. Immune persons who are not carriers may be dismissed from supervision.

2. Non-immune persons may be allowed their freedom up to a day or two before the expiration of the shortest period of incubation of the disease.

3. If necessary, a culture shall be taken or a serum test made in order to determine if the exposed person is a carrier or has had the disease.

4. A protective serum or vaccine shall be given if possible.

5. The exposed person shall report to a physician or the health officer upon the first signs of sickness.

Procedure of Investigation—If there is an epidemic in a community a health officer or epidemiologist will investigate and control it by certain standard methods of procedure, which are: (1) To discover all the cases; (2) to obtain uniform data from each case; (3) to analyze the data in order to determine the source of the infection; (4) to apply the remedy.

FINDING CASES.

The first duty of a health officer in the suppression of an epidemic is to discover all the cases of the disease in his jurisdiction. The probability is that physicians report only those cases which are well marked; that many mild cases go undetected; that many cases have no doctor to call to see them; and that there are a number of carriers who have not been sick at all. It is the duty of the health officer to discover as many of the mild, missed, and carrier cases as possible.

One of the reasons that epidemics develop is that they usually begin with cases that are mild and do not resemble well-marked cases. For example, smallpox now usually gives only mild symptoms, and the eruption only partially develops as compared with the virulent form of the disease of years ago. The epidemic is usually well under way before the disease is recognized.

One of the first things which a health officer will usually have to do in the presence of an epidemic of one of the rarer diseases is to instruct the physicians in the methods of recognizing the disease. He will endeavor to retain their good will and respect. He will not chide them for ignorance but will explain to them the new and unfamiliar forms which diseases assume in new conditions of modern civilization. He will also explain to them the use of modern methods of diagnosis, such as lumbar puncture in poliomyelitis. When the physicians are all educated in the recognition of cases, and are willing to co-operate with the health department and report all their cases, the health officer may feel that he has laid a sure foundation for the suppression of the epidemic.

Another thing which the health officer must do is to make an inspection for the discovery of cases which are not seen by the physicians. There are a number of mild cases and of carriers in nearly every epidemic, and their presence explains the mysteriousness of the origin of many of the known cases. A public health nurse making a house to house canvass is a great aid in finding cases which have been missed or concealed. Rumors of cases and common gossip are clues which are worth following up, for they lead to the detection of many cases which otherwise would not be discovered.

UNIFORM DATA.

The second step in the investigation of an epidemic is the collection of answers to uniform questions which are put to each sick person. The object is to obtain a history of the person extending backward beyond the possible time of receiving the infection. The questions will vary according to the disease that is under investigation, but they will be along the following lines:

1. Personal history; name, address, age, and sex.

2. Date of onset of the sickness.

3. Contact with known cases.

4. Source of supplies of water, milk, groceries, green vegetables and other foods that are eaten raw.

5. Places visited, and meetings, dinners, and other gatherings attended.

6. Visitors received.

7. Sanitary condition of the home and working place. A health officer will obtain these data from the reports of physicians, by the investigations of public health nurses, and by his own inspections. A health officer will need a considerable degree of skill and diplomacy in obtaining the data and of judgment in judging the truthfulness and value of the information.

ANALYSIS OF THE DATA.

The third step in the investigation of an epidemic is to analyze the data in order to discover something in common with all the cases which will point to the source of the infection and the method of its transmission. The health officer will tabulate the cases according to the dates of their onset, their geographic distribution, their school attendance, their supplies of milk and water, and their association with previous cases. He will take into consideration the period of incubation of the disease, and will lay special stress on the actions of the cases at the time when infection most probably occurred. There may be a large number of possible sources of infection in each case. The source or route which is common to all, or to a considerable number, will probably be the principal source or route which the health officer will have to control. The original source of infection may be evident from the outset of the investigation, or its detection may require a high degree of skill and judgment, especially in those diseases which are spread by contact. The details of the methods of investigation will vary according to the nature of the epidemic. They will be enumerated in the discussion of each disease.

Two valuable devices in investigating and reporting an epidemic are the graphic chart and the spot map. An excellent form of chart is that in which the number of cases developing during each day or week or other period of time is indicated by the height of series of black columns, one for each period of time. Such a chart shows the progress of the epidemic and the results of the various methods for its suppression. The chart also has an educational value to the public, especially when explanatory remarks are printed with it.

A spot map indicates the location of the individual cases by means of circles or disks. A line connecting each case with its source of infection shows at a glance the origin of the case, and the chains of secondary and tertiary cases that have developed from each focus of infection. Such a map is a great convenience in recalling the sources of the cases and in demonstrating their origin and the methods to be adopted for the control of the epidemic.

CONTROL OF AN EPIDEMIC.

When a health officer has discovered the cases in an epidemic and has determined the modes of their transmission, the method of controlling the disease will be evident. It may be extremely simple, as for example, the exclusion of a person with a sore throat from a dairy; or it may be difficult, especially when the disease is spread by contact with carriers. The control of an epidemic, like that of a fire, is easy at the beginning, but is hard when it has produced a number of mild cases and the carriers which are difficult to discover. The time to begin active measures for the discovery and suppression of a contagious disease is when it first appears.

DISCUSSION.

Dr. D. J. Williams (Gulfport): I did not expect to discuss Dr. Frizell's paper, but there are some things in connection with the control of contagious diseases among children that might be emphasized. I want to refer first to the first part of the doctor's paper, in which he dealt with the reporting of diseases. The average doctor in Mississippi seems to think (and in thinking that way he is in perfect accord with the majority of the health departments throughout the country—I mean state health departments, too) that it is perfectly satisfactory for him to make a report of a disease three weeks after the patient has recovered. I do not understand why the state health laws in many of our states require that these reports go first to the secretary of the state board of health and why we have instructions of that kind from our epidemiological departments insisting that these reports go to the heads of the state departments before they reach the health officer. It is an absurdity, on its face. I receive in our county repeatedly reports of diseases after the patients are convalescent, and many times after the patients are dead. Such reports are worthless, and I believe it is the duty of the health officer to let it leak out that the doctor who is tardy in making these reports is not rendering the service to his patrons or patients or the community that he should. It is the quickest way to whip them into line.

There is another thing that we are neglecting; the doctors are neglecting it, the school authorities are neglecting it, and the health authorities are neglecting it. I say so because in a recent meeting of the health officers in this state the idea was expressed by some of the leading health authorities of this country that it is perfectly useless to attempt to control such diseases as measles, mumps, chicken-pox, and whooping cough, referring particularly to measles. I want to say, if you boys do not already know it, that measles is a dangerous disease. It kills folks and kills them from infancy to old age. I have proof of it, when last month we lost seven people in our county and the death certificates are marked measles. They ranged in age from less than one year to eighty-three. This month we had recorded some deaths from measles in the acute stage of the disease. It is necessary to control these diseases in childhood. If you do not control them in childhood you will find, if you follow your cases of measles, that the old idea once prevalent that many cases of tuberculosis follow measles was incorrect. But where you find one case of tuberculosis following in the wake of measles, whooping cough, and mumps, you will find many cases of nephritis. Too many people are dying thirty years after they have recovered from the acute effects of these diseases. There are many important points in the prevention of the diseases of childhood that many of us are guilty of neglecting.

There are many excellent points in the doctor's paper which I might mention; but I feel if this thing sinks home and the doctors of Mississippi realize the importance of reporting these cases promptly, so that measures can be applied to pre-

vent the spread of these diseases, we shall have made a great step forward.

Dr. W. D. Beacham (Hattiesburg): Since we have plenty of time and this is such an important subject, I am going to reiterate some of the things you all know. There was discussed on this floor a year ago the importance of giving babies toxin-antitoxin to keep them from having diphtheria. Don't forget that. Possibly the physician who fails to advise a mother to have toxin-antitoxin administered to her offspring when that child is six months old, or soon after, will be derelict in his duty to the extent that that mother might lose that child. Two years ago, when we had this campaign in south Mississippi educating the doctors and the mothers to the importance of utilizing this splendid aid in medicine, some of our doctors came to me and said: "Beacham, why do you urge giving toxin-antitoxin when we have a cure for diphtheria in antitoxin?" I said, "Doctor, last year there were 385 deaths from diphtheria because they did not get the antitoxin in time." That same doctor this year lost a patient from diphtheria, and I wonder if now he doubts the value of toxin-antitoxin.

Dr. Bloom, of New Orleans, has been the outstanding man who has done something in controlling whooping-cough with vaccine. He says he has administered whooping-cough vaccine to more than two thousand children and fewer than one per cent of those children have had whooping cough. Our experience has been that whooping-cough vaccine given in large doses before or soon after the exposure will control whooping cough to a great extent but not with such outstanding results as Dr. Bloom has had. I call your attention to these things along with this splendid paper that Dr. Frizell has just given us. Let us not forget preventive medicine; let us urge it.

Another thing. I have come to the conclusion that it is the best thing to placard the homes and let it be known. I have told children that if they bring whooping cough and measles and those things to school knowingly I will make an affidavit against their fathers for sending them, if the children have not reached the age of accountabilit.y I have also told the teachers that if a child has been exposed to whooping cough and coughs within the next three days to send that child home, and if a child has been exposed to measles and within three days afterward it has a cold, send it home.

Whooping cough and measles are serious diseases. Let's not think of them lightly; let's get busy and do our part. Report to the health officer immediately, and if the health officer does not do something report to the State Board of Health and brand him as not doing his duty. We may not be guilty of the sin of commission in these diseases, but we are guilty often of the sin of omission, and indirectly we are Herods and are contributing to the toll of infant life.

Dr. W. H. Anderson (Booneville): I think this is one of the finest papers I have heard, and I have certainly enjoyed the discussions. I should just like to bring before you a little slogan or a saying that I think if we get before the people will help as much as any one thing. One old philosopher said, "Never put off until tomorrow what you can do today." In the matter of contagious and infectious diseases let's get before the people this saying, "Never have today what you can put off until tomorrow."

Measles is a serious disease. Last week a young man eighteen years of age had measles (just breaking out), went out on a fishing trip, got exposed, developed middle ear disease, and then general septicemia, and died. Measles is a disease in which you have to take care of yourself if you have it. Another point: it is one disease in which you do not have to give any medicine for fever. They do not need it in measles. You want to stimulate the circulation and bring heat to the skin.

There is a point in diphtheria about which I want to ask a question. I have had no experience in the use of toxin-antitoxin in diphtheria, but I am going to use it and see what I think of it. But let somebody answer this question: If the disease itself will not confer immunity, how can you produce a vaccine that will confer immunity? I understand that diphtheria has been cut down all over the United States to a very low rate compared to what it was a few years ago. In my county I will guarantee you that the number of cases has been reduced as much as in any other county in the United States during the last five years, and so far as I know there has not been a dose of toxin-antitoxin given in the county. We have followed a different plan. When I have a case that has diphtheria this year, I look for that patient to have diphtheria next year if the tonsils and adenoids are not removed. I make cultures of every case; I cannot tell you how many cultures I have made. I do not want to say anything against toxin-antitoxin, but I do want to bring this point to your attention. Don't forget the tonsils and adenoids and don't forget to look after the nose—and the ears, too.

Dr. C. M. Shipp (Bay St. Louis): In Hancock County we immunized 1,100 children under three years of age. That was three years ago. Notwithstanding the fact that we have had several cases of diphtheria in the county, not a single one of those 1,100 children have developed the infection.

Dr. S. S. Caruthers (Duck Hill): In regard to this preventive program, we are all heartily in sympathy with the movement. The toxin-antitoxin works. About two years ago Dr. Applewhite came to our town and gave the Schick test to all the school children. To those that had a positive reaction he gave toxin-antitoxin. Since that time we have not had a case of diphtheria in the community, and prior to that time I don't think we ever went through a winter or spring without having one or more cases. It has worked.

The vaccine against whooping cough works fairly well; but as to measles, the disease that we dread on account of its widespread prevalence and the severity of its force in many epidemics, I have not heard any practical way of meeting the situation. I do not know of any plan that has been proposed that has offered us any help in controlling the spread of measles. Three years ago we had an epidemic of measles, mild in type. This year we had more measles than I ever remember to have seen at any one time in my life before, and we have had one death. We have tried to isolate and quarantine and every kind of scheme, nearly, that you could think of, but none of it seems to have done anything. In one community that was far away back up in the hills, practically a mile across the woods and hills from any other settlement, the people kept their children at home, and the measles was kept out of there until recently. The adults seem to have been immune. Just how measles got in there I have been unable to find out. It appeared in a say no one had been there who they knew had been say no one had been there who they knew to be exposed to measles. But it spread everywhere. If the authorities and those engaged in this kind of work have any practical plan to combat measles, let's have it, so we can get busy on the job. I have never heard of any plan that was worth a snap of your finger. We tried it in the army; we have tried it in the schools; we have done everything that has been suggested; and nothing has been done so far. I should like for them to get busy on that job and see if they cannot solve it as well as they have solved the diphtheria and typhoid fever and other problems.

Dr. R. G. Lander (Purvis): I want to put in a word for the general practitioner. It seems to me to be the fashion for the health officers to bunch together and the general practitioners to bunch together. I believe we have to get together on this. There is no question that the general practitioner has a part to play in preventing the spread of contagious diseases. How is he going to do that? By catching them early. I believe the whole thing has to be an educational process. We have to educate school teachers. When teachers send a child home for a cough of any kind or for any sign of sickness and tell him not to come back until he brings a certificate from the family physician or is entirely well, then we shall be able to do something. I had a hundred cases of measles in my county this winter before I knew it. I am going to my school teachers and insist that they do this, so that these cases will get in the hands of the medical profession—where they belong. We can not do anything unless these people come to us. The majority of cases of whooping cough never see a doctor. We must educate people to go to the doctor for any ailment, because it might become serious.

Dr. H. H. Hays (Jackson): Over here on the right there is an exhibit of the Board of Health and this is the exhibit of the Bureau of Communicable Diseases over here. When the cards that report the communicable diseases are brought in to my office there is a tack put up in the state map for every case of communicable disease that is reported, and I hope every man in this room will notice the distribution of the different communicable diseases that we are having throughout the state.

I have talked in 280 schools this year and have called attention to the giving of toxin-antitoxin and also have called attention to the scheme of controlling communicable diseases, and I must say that the children have been wonderfully interested in this program. There will be about 25,000 high school boys and girls who will write an essay this year on the control of communicable diseases. I wish every doctor here could see those essays and find out how intelligently these children are comprehending our program for the control of communicable diseases. I entered into this program, gentlemen, in order that the public might intelligently co-operate with you in the control of these diseases. I have said to each one of these children that a disease that is unreported is exactly like a fire, a danger to all the community, and just as soon as that disease is reported if the county health officer does not go at once and put into force the rules and regulations of the State Board of Health, then that fire is likely to spread. So I am trying to get the public to co-operate with you in the control of these diseases.

A question was asked a while ago about measles. Of course, we have known for the past few years that convalescent serum would prevent measles, and in delicate children the child specialists are using convalescent serum, but I do not see why all of us should not use this convalescent serum. Given an older child who has measles, we might withdraw from that child ten c.c. of blood and inject it into a smaller child. Or if we take the serum we might inject three c.c. of serum into the smaller, delicate child and

prevent that child from having the measles. Of course, we have a great deal to work out before we get an antitoxin for measles, as we have for whooping cough and scarlet fever.

The main things I see in the control of children's diseases is reporting of those diseases promptly, isolation of the patients, and the use of toxin-antitoxin for the prevention of diphtheria and scarlet fever. I thank you.

Dr. W. A. Dearman (Gulfport): I should like to say a word or two with reference to the susceptibility and immunity in diphtheria, in conjunction with what Dr. Anderson said. So far as we know, and so far as immunologists can advise, there are only two ways of becoming immunized. It is either cellular or humoral. It is outstanding and well known that infectious diseases, as scarlet fever, chickenpox, measles and parotitis, confer a lifelong immunity. I have never seen, to my knowledge, an individual who has had measles twice. I have heard it said that some people have had it twice.

I never encourage anybody to rush into a contagious disease. I have seen them go into the valley of the shadow of death and never emerge from it because they have been guided by the light of superstition and ignorance. It is possible for a person to be born, live his lifetime, and never have measles. It is also possible for him to have measles, have serious complications, and die or be crippled for life.

I want you to understand me, doctor; I believe it is possible for an individual to have whooping cough or measles two or three times, but I have never seen it. Sometimes, when a doctor tells me, I believe it; but when a patient tells me I believe it was possible for someone to have been mistaken about the first attack. I had a man tell me the other day about a boy who he thought had scarlet fever. He had swelling of the glands of the mouth and broke out in a few days with a rash. The doctor bombarded him with scarlet fever antitoxin and immunized everyone in the house. I came in and found that the boy's mouth was full of Koplik spots and that he also had mumps. The rash was a measles rash, not a scarlet fever rash. It was the mumps that misled him. The boy had a double header, but he recovered, without any further administration of vaccine.

As to tonsils and adenoids, unless the child is susceptible to diphtheria he will not have it even if the tonsils are rotten. His immunity is due to antitoxin in the blood, and if he hasn't enough he will develop diphtheria, either mild or malignant.

The next point is this. All these diseases confer what we feel to be lifetime immunity. We feel safe in letting children go to school, if there is measles or mumps in the home, if they have had it. As to carriers, we cannot control them. We find them sometimes in diphtheria. I had a girl down in Yazoo City shut up for three months, until she threatened to commit suicide if I did not let her out. We had the tonsils and adenoids removed and let her out, and she soon cleared up.

As to toxin-antitoxin, you may give it and the child still may develop diphtheria. Why? Because it has not had time enough to develop immunological bodies to prevent him from having the disease. When we come to study the immunological defenses of the body, I think we have it on a fairly logical basis.

Dr. Frizell (closing the discussion): I wish to thank you gentlemen for your intelligent discussion of this subject.

In answer to the doctor who criticized health officers a little bit, I might say this paper was not brought up to arraign health officers. We have to work together in order to combat these diseases.

Dr. Anderson asked about a vaccine's conferring immunity when the disease does not, and Dr. Dearman answered that. It is not the vaccine that confers the immunity but the defenses developed within the body.

As to Dr. Shipp's work down on the coast, probably his cases were not among his vaccinated groups but were others.

In regard to carriers, I think we often overlook domestic animals as carriers. Cats and often chickens have diphtheria.

I don't believe in quoting any company's vaccines. These laboratories make these things to sell, and I should like to see these things given a thorough trial before you advise your clientele to use that line. Let it come from some health authority.

As to vaccination for measles, I have nothing to say along that line. It is still sub judice.

I want to thank you gentlemen for the discussions.

THE PROBLEM OF VENEREAL DISEASE CONTROL.*

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A review of the literature reveals an increasing number of discussions of this subject which proves that the medical profession is arousing to the fact that the scourge of sex diseases is really a serious entity and a problem that confronts it and must be combatted with great vigor and seriousness.

The problem of social disease control is really one of the paramount objectives of the Health Department and should have the full co-operation of each and every medical man for it is through him that the Health Service must expect to carry on in this great work.

It is a known fact that the majority of the unfortunate inmates of our institutions for the insane and feeble-minded are there as the result of venereal disease; that a vast number of sterile women and impotent men are sufferers from a social illness, and opthalmia neonatorum is the cause of 20 per cent of the blindness in institutions. It would be difficult to estimate the economic effect of social diseases, but the inroads made into the ranks of labor must certainly cause a great loss annually to industry. Fischer states that there are 250,000 deaths each year due to venereal disease.

It was Osler, the great leader in modern medicine, who said: "Know syphilis in all its manifestations and relations and all other things clinical will be added unto you." Many leaders in the social sciences are now saying in effect—know syphilis in all its manifestations and the cause of many social ills will be revealed.

Medical science has aided social science in the discovery of the cause. Social science in turn can aid medical science in removing the cause and tempering the effect.

The medical profession and the public have a natural aversion toward these diseases—the attitude being very inconsistent. There should be no distinction made between venereal diseases and many other of the epidemic diseases. The principles of control should be the same. We take great care to treat, isolate and prevent the spread of smallpox, diphtheria, measles, tuberculosis and leprosy, but apparently, from our attitude, a venereal disease is just a natural course of events and needs no special attention other than a few therapeutic measures, which in many instances fall far short of their mark, due to ignorance or the failure to follow up by the physician or to lack of perseverance on the part of the patient.

A person afflicted with a social disease should not be regarded as a law breaker or culprit but rather as a victim of an unfortunate circumstance. He needs sympathy and help. He should be treated as humanely as a case of pneumonia and the public welfare demands that he be accorded the best of care.

It is startling when we stop to realize that in most of our large cities few hospitals will take cases of acute venereal infection when it is in this stage that it is especially communicable. Cook County Hospital in Chicago has 200 beds for such diseases in a population of over 2,000,000.

The prevalence of venereal diseases among the population at large can only be approximated. Definite figures, however, are at hand for selected groups. Cunningham says that 60 per cent of men acquire venereal infection some time, 20 per cent of these are incurred before the 20th year, 50 per cent before the 25th year, and 80 per cent before the 30th year.

Of the first 990,592 physical records received by the Surgeon General, U. S. Army, under the Selective Service Act, a total of 28,411 men had venereal disease—2.86 per

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cent. Of these, 23,049 had gonorrhea, 4,412 had syphilis, and 941 had chancroid. Camp medical examiners found a higher percentage—5.4. These figures indicate the minimal amount of venereal disease coming from civilian life among the first million men drafted.

Zinsser estimates that 10 per cent of the men registered for draft under the Selective Service Act were actively infected. There were 24,234,021 men between 18 and 45 registered. It is conservatively estimated that of this number 2,600,000 were diseased, of whom 500,000 were syphilitic.

Banks states that we have nearly two and one-half million venereal cases occurring annually in the U. S., about 1 person in every 40.

Venereal diseases reported to the State Boards of Health in the civilian population in the nine corps areas of the army for the year ending June 30, 1925, are: Syphilis, 201,692; gonorrhea, 166,208; chancroid, 6,742; total, 374,642. The venereal disease incidence per 1,000,000 in an estimated population of 115,378,094 covering the nine corps areas for the year ending June 30, 1925, is: Syphilis, 176; gonorrhea, 145; all venereal infection, 321.

Of the communicable diseases reported generally throughout the United States, syphilis had the third highest incidence for 1924; measles and chicken pox lead.

These figures will give a fair conception of the extent of the scourge.

The reports of social disease statisticians are encouraging for they show that the efforts to control these diseases are bringing results. The report of the Surgeon Generals of the Army and Navy will be a fair example:—for the army, reports show that the average venereal disease admission rate per 1,000 men for the period, 1915-1917, which was 98.78, declined to 59.95 for 1922-1924, a reduction of 39.30 per cent, and declined to 55.82 for 1923-1925, a reduction of 43.49 per cent. For the navy the average rate for 1914-1916 was 154.61, for 1922-1924 it was 129.43, a reduction of 16.28 per cent.

The question that naturally arises in our minds is what methods are best to combat the inroads made by such a dreaded enemy of the human body.

I believe we will all agree that education is the mightiest weapon we have. The reports of the Public Health Service of every nation and the committees and conferences on venereal disease control lay great stress on education when used in the proper manner. There is no doubt but that an important factor in the spread of these diseases is found in ignorance of the populace, or the insufficient knowledge of sexual life and its dangers. If the young people were aware of the danger of premature or unclean sexual relations, they would probably take much better care of themselves than is now the case.

Every boy and girl upon reaching the age of puberty should have knowledge of sex and every man and women before reaching the marriageable age should be informed on the subject of reproduction and the dangers of venereal diseases. This sex education must be adequate. Knowledge alone of the danger of venereal disease does not avail if the young person is not brought up to develop a determination of self-restraint. While the importance of moral education is generally recognized, the age at which sex education is to begin is not entirely agreed upon. If the dangers of venereal disease were pointed out too early, the danger of arousing in the young person a sexual excitement might result, thus doing more damage than good. The opinion is voiced that it is less dangerous and more sensible to have sex education given by competent persons in the manner desired, than to have it come from unauthorized persons (servants, schoolmates, etc.)

Instruction in sex hygiene should emphasize the rewards of strength and virtue,

rather than the penalties of weakness and vice.

The whole bugaboo of sex education lies in the loss by adults of the attitude of the child mind and their total inability to converse in a sane, wholesome and truthful manner. Straightforward truthfulness is necessary because the truth is bound to be learned, and the more simple and direct the route, the wiser the sources, the better.

The person to impart this information may be parent, doctor, minister, friend or teacher. In any event, two qualifications are essential: knowledge of the facts and an impressive personality. The schoolroom or the lecture hall is not the place for such instructions for the young person cannot attain the proper reverence, therefore individual instruction in these matters is the ideal method.

Some of the facts all young men should know are: that the true purpose of the sex function is reproduction and not sensual pleasure; that the testicles have a two-fold function, reproduction and to supply force and energy to the other organs of the body; that occasional nocturnal emissions are normal physiological activity; that sexual intercourse is not essential to the preservation of virility; that continence is compatible with health; and that sex instinct in man may be controlled. Experience has shown that arduous physical and mental labor is best performed when the sex organs are not exercised; that is, sexual excess distinctly impairs muscular strength and mental efficiency.

Continence, of course, is the one and only sure way of preventing venereal disease. The great majority of the male population truly believe that it is absolutely physiological and essential for man to deplete his sexual organs by a natural coitus at intervals rather than have nocturnal emissions. In fact, I have heard young men say that these emissions were harmful to the body. This is just an example of the gross ignorance that pervades the minds of youth concerning things sexual. It will take intensive propaganda to bring about the proper mental education pertaining to sexual hygiene and the social diseases, and it is up to the physician to initiate such a move in his community.

The prevention of venereal disease hinges around another very difficult custom — that of prostitution. Civilized nations from time immemorial have struggled with this problem, even imposing heavy penalties upon the unfortunates, but without success. Many of our great cities have tried to suppress prostitution, but with only temporary results — the women being driven to other districts to carry on as before.

If a man has connection with a prostitute he should not be surprised if she infects him, even in those segregated districts under municipal medical observation or in those houses that have their private visiting physician, a man is not safe from infection, especially gonorrhea. A simple douche just before examination will remove all the evidence of incipient gonorrhea. Then the woman may become infected or manifest her first symptoms of the disease between the visits of the doctor. The so-called cured, but really chronic cases form a very important contaminating source in this group. It is possible for a woman to be negative for gonorrhea by all the clinical and microscopic examinations and yet pour out millions of the organisms from the mucus glands under the stress of sexual excitement. Huhner says, "That practically once a woman has had gonorrhea there is no way of telling from physical examination whether she is cured or not."

The next source is the "sure thing." So often men will present themselves with an active case of gonorrhea that they must have caught innocently for their only sexual relations have been with a girl of whom they were absolutely "sure." The only answer for this is that if the girl has sexual relations with one man she will with another and that absolutely eliminates the last element of safety.

The "respectable married women" present another group. If a man can entice one of these women to have sexual intercourse with him he should not blaspheme her later for infecting him with a venereal disease, for he did not stop to take into consideration the fact that she has a husband who probably had brought the infection home to her.

When a man has unlawful sexual relations with any woman he must be able to vouch for the purity of the other men with whom she has relations before he can feel safe, but this is a practical impossibility. The whole thing resolves itself down to the equation so tersely put by Huhner: "Illicit sexual intercourse equals venereal infection.'"

The rubber or animal skin condom has been recommended as a social disease preventive, and I believe it is a valuable adjunct for it lessens the amount of actual contact during an intercourse, but I have seen innumerable cases infected because the condom ruptured. Then, too, we have all seen the extra genital lesions that was not covered by the condom, especially on the lower abdomen or around the base of the penis.

Now we come to that greatest of all preventions for those individuals who must have illicit sexual coitus—immediate self-disinfection.

Metchnikoff and Roux in 1906 announced that certain mercurial salts in an ointment would kill the syphilitic germ on the genital organs if used within a short time. It has been found that a 33 per cent calomel in lanolin ointment is the most effective and has become the most commonly used of all the preparations. This is also effective in gonorrheal prophylaxis, but urethral injections have been added as adjuncts. Prophylaxis is possible, but it takes a great deal of vigilance and care, and the double method must be promptly and skillfully applied in order to be effective. It has worked well in military organizations where there was complete control of the men, but the results are less productive in civilian life. It requires a little time, some intelligence and sobriety to correctly apply self-disinfection.

So often sexual intercourse is indulged in while under influence of alcohol and we all know that the effect of this makes the likelihood of infection more probable. A man even partially under the influence of alcoholic liquor will not think of using prophylaxis at once and even though he does, it will be carried out in a haphazard manner.

To be efficient the disinfectant should be used not later than three hours after coitus but preferably within one hour. This will usually catch the germs before they have made any headway into the tissues.

The best method of using the prophylactic:—before coitus use a liberal amount of vaseline or other lubricant. This aids in preventing abrasions and forms a coating through which organisms penetrate with difficulty. As soon as possible after intercourse wash the genitalia well with water and plenty of soap. Soap is a spirocheticide and there is good evidence that chancroid can also be prevented. A wash of a 1-1,000 solution bichloride of mercury can be used following providing the person has sufficient intelligence or if carried out under medical supervision. Dry the parts well and apply about 1 dram of a 33 per cent calomel in lanolin ointment. This should be rubbed in for about 10 minutes paying particular attention to the glans, corona, entire penis, scrotum and lower abdomen and should not be removed for twelve hours.

For the prevention of gonorrhea a 10 per cent argyrol or 2 per cent protargol solution should be held in the urethra for two consecutive periods of five minutes each.

This method is practically that used in the army and navy since 1908. Many medical officers have published favorable

reports. Riggs reports 5,103 prophylactic treatments with only 81 infections.

In actual practice the number of infections appear to be cut nearly in half. The expectancy depends almost wholly on the factor of time.

Should a chancre appear even after the use of the prophylactic the best method to follow is the immediate use of an arsphenamine which will dry up all external lesions and kill the spirochete in them, although it may miss the organisms in the deeper tissues, thus rendering the individual harmless. If this could be done in all cases there would be very little transmission of lues. Notification, early recognition and prompt treatment become our most important prophylactic measures against syphilis.

Prophylaxis is much more easily carried out with the male than the female patient. If we could carry out a 100 per cent thorough prophylaxis on men thus preventing the disease in them we could stop the spread of venereal diseases and the incidence would be cut to the minimum.

The notification to the Board of Health of all cases of venereal diseases should be diligently carried out by all physicians for it is not possible to control any communicable disease, especially one that is pandemic, without knowledge of the cases and deaths. Every case known and properly cared for is a focus of infection neutralized.

The single standard for men and women must be insisted upon and the boy as well as the girl have equal rights in insisting upon a statement of health upon proposal of marriage. Any young man, properly warned and informed will be anxious to learn from his doctor before marrige if he is fit to be a husband and father.

Carnal lust may be controlled by hard work of the body. Idleness, stimulating food, impure thoughts, evil associations and alcohol excite the passions and usually travel with venereal disease. Physical exercise and outdoor life divert the mind and act as a safety valve for excess animalism of youth.

The public should be taught the necessity of thorough cleansing of the external genitals in both sexes daily. Circumcision is recommended as an aid to cleanliness and a prophylaxis against the skin lesions that usually occur on the prepuce and glans.

The prevention of innocent infection can be carried out by education concerning the hazard of kissing, the public drinking cup, unsanitary barbers, etc.

Snow and Brunet have put the responsibility of the practitioner in the fight to control and eradicate all venereal diseases as follows:

1. Every physician should understand the problem of combating the venereal diseases.

2. He should be equipped to diagnose cases of syphilis and of gonorrhea in his field of practice, or to secure such assistance whenever the presence of these diseases cannot be clearly eliminated from his diagnosis.

3. He should be qualified to treat such cases arising in his practice or to arrange for their adequate treatment.

4. He should endeavor to follow up his cases to insure their continuous care and supervision until completion of treatment.

5. He should instruct his patients how to protect their own families and the community from infection by themselves, or make definite arrangements for their instructions.

6. He should co-operate with hospital and clinic authorities in earnest efforts to secure prompt and adequate treatment of all cases discovered in the community.

7. He should likewise co-operate with the health authority in endeavoring to discover and correctly diagnose all cases, and

to record and appropriately use data regarding the progress of the work for control of these infections.

8. As a special measure of exceptional importance, he should promote the diagnosis and treatment of prenatal cases and of infections among children and married women.

9. He should do his share toward educating the people of his community regarding the dangers and the prevention of venereal diseases.

10. He should be interested in research on problems of syphilis and gonorrhea infections related to his specialty, and contribute the data collectible from his own practice to the advancement of medical and sociological knowledge of these diseases.

The State of Mississippi is well supplied with laboratory facilities including the excellent State Hygienic Laboratory and we should and must make more use of them. I was taught in Medical School to suspect syphilis in every patient until definitely ruled out. In following this instruction I have picked up many cases of lues that would have passed unsuspected for the clinical symptoms did not point to the real underlying cause.

The doctors simply must be more careful in their examinations, locate these unsuspected cases of venereal infection and treat them if we are to help control and eradicate so treacherous an enemy of the human body.

I should like to see legislation passed whereby those infected with a venereal disease would be compelled to follow out treatment until discharged. These cases should be reported by name and address and a strict account of them kept until given a clean bill of health by his physician.

The Health Department restricts interstate traffic of cattle, sheep and horticultural plants that are infected with scourges peculiar to them, why cannot they quarantine persons infected with a dreadful venereal disease? Some of the States have such laws.

Therefore, in order to control and ultimately eradicate the three principal social diseases syphilis, gonorrhea and chancroid, we must educate the population with respect to social hygiene, results of infection, personal prophylaxis, personal hygiene, strict legislation that can and will be enforced and lastly, recognition of infection by the profession.

DISCUSSION.

Dr. T. P. Sparks (Jackson): I personally want to congratulate Dr. Linfield on his paper. I think it is a well prepared paper well presented. He has gone into the thing frankly and openly, and I think that is the only way to deal with venereal diseases. He mentioned education as our chief method of prevention, and I want to indorse that view. I see Dr. Hays over here, and I think we all know that Dr. Hays believes that.

One thing I question. If we should attempt to make it a legislative proposition and attempt to make every case be reported by name and address, I wonder if we shall not drive away from the doctor the cases that need treatment, they knowing that they will be reported to the state and that they will be followed up and—in their opinion probably—that they will be persecuted. Knowing this, probably they will seek ways of treatment other than those available at the hands of physicians, and we may have the venereal bootleggers. This thing will be operated outside of the law. I just mention that; I have no firm conviction about it and have not had enough experience to form a definite judgment. That is just an opinion.

The doctor mentioned one other thing with reference to the education of children, to emphasize to them the rewards of virtue rather than the penalties of immorality. I cannot help but feel that you cannot overemphasize the penalties of immorality. There are a great many times when a person will not be deterred because of moral reasons when the fear of a thing will deter them.

I enjoyed the doctor's paper very much and think it is one of the best papers I have ever heard on the subject.

Dr. Hardy Hays (Jackson): I wonder if we realize what a wonderful paper we have just heard. It has been my good fortune—or misfortune—to be associated with venereal disease con-

trol ever since the war and I have never heard a paper in my life that was any more comprehensive and that dealt with the subject more completely than this paper that Dr. Linfield has just read. It is an excellent paper, and I hope that you gentlemen when you get home will get this paper and reread it, because oftentimes our interest may be in something else while an essayist is presenting his paper. I commend to you this paper as an outline for the study of this great problem.

We know we have two great big appetites that stimulate us into every activity known to the human. The first is the hunger impulse and the second is the reproductive impulse. The reproductive impulse is even greater than the hunger impulse, and when dealing with this impulse we are dealing with something vital to the human race. We cannot go to work and disregard that impulse, and if we let people grow up thinking this impulse is something low and base we shall have venereal disease as the outcome. But if we teach our boys and girls in the tender years that this is a holy impulse, it is an impulse that is natural, that it is not degrading or debasing, that it does give us the highest and best things we have in life, then we can shape our control of venereal diseases. For instance, when we tell a boy that it is a debasing thing to have sexual relations, he is going out and have it with some negro, he will have it with some prostitute; but if we teach him it is holy, that God gave it to us to impart life, that with it he can carry on the spark of life into the future, then we can give that boy the proper attitude. After habits of immorality have been fixed in a boy's life he is not going to be moral, he will not think about the sexual impulse in the sacred way he ought to; but he will if we start in the tender years of his life and impress on him that it is a holy impulse.

Dr. Linfield said that venereal diseases are on the decrease. I am sorry to say, gentlemen, that I question this. I have been in conference with venereal disease control officers all over the United States, and we have discussed this a great deal. Dr. Sparks brought out a point there. In a great many of these states they have clamped down the law that these diseases must be reported by name, and those are the states that are having the decrease; those are the states that are showing this big decrease. Dr. Leathers and I discussed this thing of reporting by name or by number. Dr. Leathers, with his practical mind, said: "What are you going to do with those things? You have not social agencies to follow them up, as they do in these well regulated cities, so what are you going to do with the reports?" When I answered that we would simply tabulate them, he asked why we could not let the physicians report at the end of the month on the morbidity and then tabulate. So we did it that way, and Mississippi is showing an increase every month. Beginning five years ago with nine thousand cases, this past month we had over fourteen thousand reported. Gonorrhea started with nine thousand five years ago, and we have gotten up to over twenty-two thousand cases of gonorrhea. I do not know whether we are increasing so rapidly, or whether we are getting them into the hands of the medical profession. When I started this campaign several years ago there were fewer than fifty physicians in the State of Mississippi who would give arsphenamin. My first step was to go to physicians and teach them to give it, if they did not know how, and urge them to do it. I see doctors in this audience with whom I was present when they gave their first dose. There are more physicians in general practise giving arsphenamin today in Mississippi than in any other state. Then we clamped down on the druggist who sold drugs for the treatment of these diseases, requiring them to give the name and address of the persons to whom they sold such drugs. Then we wrote letters to those persons telling them they were going at it in the wrong way by trying to treat themselves or having the druggist treat them and urging them to go to physicians.

Alabama, our sister state, has $25,000 for the control of venereal diseases; in Mississippi we have nothing. You physicians know that venereal diseases are more prevalent in Mississippi than any other contagious diseases. We started by sending arspenamin free to you for charity cases, subsidizing the laboratory to send you tubes for sending blood, etc. We cannot do any of those things for you today. Why? Because we have no money. If we earnestly believe that this social disease problem is the greatest one that we have in the state, then we ought to make ample provision.

There is just one thing I cannot pass by without mentioning, and that is to speak of the reward of health rather than the danger of disease when we are talking to these boys. Of course you and I are old enough to understand what the dangers of the disease are; but remember, when you are talking to that boy, that he rather likes danger. If you tell him anything is dangerous he will go into it much more quickly than he would otherwise; he thinks it is heroic. Don't tell him of the danger, but tell him of the number of prize fighters who have to be continent in order to maintain their vigor, tell him of the other athletes who have to be continent. You can never scare a boy, and don't try to.

Dr. Adams: I should like to thrust a lance into error and hold up the truth, and I

know of no more vital point to sustain the truth and no more vulnerable point to puncture error than in this great problem of venereal disease control. The doctor's paper was very illuminating to me, and I hope his data are a little overdrawn. Whether that be so or not, we must admit from the reports of the splendid physicians in this state that we have an alarming condition in Mississippi. We must admit that this is one of the greatest economic problems confronting this splendid civilization, when we consider the fact that twenty-two thousand cases of gonorrhea were reported last year and that fourteen thousand (I believe) cases of syphilis were reported last year among the citizenry of this state, the finest blood that flows in the veins of any citizenry on the face of the globe, when we consider that Mississippians, the white race in Mississippi, have been contaminated and that we are confronted with the problem of building a five-million-dollar institution to care for one class of gruesome wreckage that comes from this disgraceful story—and that will not care for them in the near future if we do not arise to the situation and do our part to educate the public and try to eliminate the source of this great wreckage. I have been heartbroken over the attitude of the citizenry of this great commonwealth, for I swear by them and believe in them. I was here for approximately three weeks and saw this legislature making appropriations for tick eradication, $25,000; for killing ants and potato bugs, $125,000, with no appropriations for preventing diseases that scourge the citizens of the state and that fill these institutions, that burden us to death with taxation, with wreckage that is a disgrace. I felt discouraged that we had only $10,000 for this venereal disease program, and then that was taken away from us by this last legislature. I went away with a sad heart.

Dr. Linfield said approximately sixty per cent of insanity and feeble-mindedness comes from venereal diseases. Whether that be true or not, we know a large percentage does come from them. The greatest economic problem confronting this state today is the care of the gruesome wreckage that comes from these two scourges. We have not recognized one factor, and that is the feeble-minded all over the state, everywhere, embarassing the normal children, hindering them in their work, hampering them in their work, embarassing the parents. As I went over the state in 1925 I saw them everywhere, children that should have institutional care, embarassing the other children, hampering them, and perhaps a source of contamination. What shall we do? The highest expression of citizenship, of religion itself, is service; service to those who need it, service to the unfortunate. Certainly no greater field could be opened up than to reveal to the citizenry of this state their duty to care for the unfortunate, for the insane, for the feeble-minded; but certainly greater service comes in preventive measures. I want to appeal to you as physicians and as apostles of truth not to lapse into indifference on this great question, because you can be emissaries of truth and arouse the public to interest in this great economic problem.

I would not minimize the importance of fighting the great white plague. They have estimated twenty thousand cases in the state. Here we are confronted with the proposition that there are thirty-six thousand cases of these disgraceful scourges in the state—reported, and you know the tendency of families and of physicians to cover up these things. How many are there not reported? We know that tuberculosis is not a disgraceful scourge and that syphilis is a disgraceful scourge. We ought to feel disgraced as a church, as a civilization, so long as we tolerate the disgraceful scourge that is bordening us with this gruesome wreckage that comes to our hospitals for the insane. Gentlemen, it ought to be a privilege for you to arouse the public to the importance of the eradication of this great scourge and say it can be done and shall be done.

Dr. H. H. Ramsay (Ellisville): Not with the intent of criticism but for fear of misunderstanding in the reading of Dr. Linfield's paper and also in these discussions, I should like to bring out the fact that the prevention of venereal disease and venereal disease control will not prevent feeble-mindedness. In fact, I have often stated to Dr. Hays that we shall not control venereal disease in the state of Mississippi—or any other state—until we control feeble-mindedness. The lower in the scale of intelligence we go, the more degenerate human beings become and the more apt to acquire venereal diseases. In fact, a large percentage of venereal diseases in Mississippi is transmitted by the degenerate and feeble-minded in our state. The statistics that Dr. Linfield gave I presume he got from the authorities, but they do not agree with the figures I got from Tredgold, who is our most noted authority. Five per cent of mental disease is due to syphilis, congenital syphilis. The symptoms usually outstanding, in the teeth, etc., are usually present; and usually on a Wassermann; the organisms can be gotten from the blood of the patient.

In the writings of the older men, English and all, feeble-mindedness is said to be hereditary, transmitted from parent to child or from grandparent to child through defective germ plasm, and that it is an entity in itself. I should like to correct, if possible, without disagreeing with the essayist or anyone discussing this paper, that the prevention of venereal disease will in no wise control the problem of mental deficiency. The end to which I am working and the end to which many

men in many states are working is the control of hereditary feeble-mindedness, feeble-mindedness which comes from a defective line of stock. Of course, we are anxious to control, as well, that percentage of cases of feeble-mindedness due to venereal disease—about five per cent. Twenty per cent of all cases of mental deficiency are due to accidental or disease conditions of the brain, while 80 per cent are due to hereditary or defective germ plasm.

Dr. T. B. Holloman (Itta Bena): I do not want to discuss the paper but to add just a word of appreciation. We are all creatures of habit and all have some pet scheme. In listening to the discussions you can pick them out. We all have our hobbies; I have mine.

I should like to know, in the twenty-two thousand cases of gonorrhea and fourteen thousand cases of syphilis in the state of Mississippi, reported by the doctors of Mississippi in the past year, how many were in the white race and how many in the black race. I do not know how it is all over the state, but in my practice the cases of syphilis and gonorrhea have fallen off very much in the last few years in the white race. It is the rarest thing that I see a high school boy with gonorhea or syphilis, unless he is of that class that Dr. Ramsay speaks of—a lower class boy who has no aspirations to do anything in school, who cuts and loafs as much as he can. In the higher class I never see it.

Coming to the hobby—how many of you who have boys have ever sat down with them quietly and talked with them about venereal diseases? Hold up your hands. I have four boys, and I don't know that I have talked to one of them on that subject. Yet I determined when each was born that I would circumcize him in early life and talk to him about these diseases, but I have never circumcised one and never talked to one. It is hard to talk to your boy individually about these things, but it is easy to talk to them when they are in a group of other boys. There are two organizations in Missisippi, the Hi-Y and the Boy Scouts. It is the ambition of my boys to get in the Hi-Y, and they get in as soon as they are old enough. They study that Boy Scout stuff and get in as soon as possible. I talked to my boys, told them to live a clean life, if they want to make good in athletics. I do not want to make a personal reference, but I will say this—I am small, and during my four years in college I was the best all-around athlete. Why? Not because of my size, but because of a clean life. The other athletes smoked cigarettes; I did not. In any town where you have a Hi-Y or any other organization of the kind make it a point to meet with them, to associate with those boys, never repeat a dirty joke to them, instill into them the idea of living a clean life if you want to succeed in anything, and you will get results.

Dr. R. L. Hagaman (Raymond): I think this is the best paper I have ever heard on the subject, and I think it ought to be given a little extra publicity.

We have a high school here, and I have been called upon every year to give a lecture to boys only on this subject. I should like to say, in support of Dr. Linfield's statistics, that I have seen results from that work in the reduction of disease; and I think if every doctor here would do as Dr. Holloman suggested and take it upon himself to talk to boys in such organizations a great work would be done.

I cannot agree with Dr. Ramsay over here that feeble-mindedness is affected by this, but I should like to say that feeble-mindedness and tuberculosis and so many other diseases start with venereal diseases.

Dr. Linfield (closing the discussion): I appreciate this discussion. I had hoped that I would bring out a lot of discussion, so as to make the medical profession of this state sit up and think a little. I hope it has borne fruit.

I hope that the statistics Dr. Hays can give us during the next five years will show a great decrease in the number of cases of venereal disease reported, rather than an increase, and I hope this discussion will have a lot to do with that. I do not know, but it may be that the increase in the number of cases of venereal disease in the state may be due to the fact that doctors are taking more interest and reporting a greater number of cases.

We should try to work on the legislators in our home county and town and get them to give us an appropriation for the bureau of venereal diseases so we can work on this problem and have legislation passed so that drug stores cannot sell a man a bottle of argyrol and a urethral syringe and tell him to use it. Another situation might arise such as that in my home town, Gulfport, where a negro doctor is cleaning up financially because these feeble-minded boys Dr. Ramsay spoke of, who have not intelligence enough to apply for scientific treatment, go to him, and he is charging $8 for a complete cure—$5 for examination and $3 for a bottle of medicine. It is a mighty low mind that will do a thing like that, because you know he knows that they will not be cured. They will become chronic cases and spread infection everywhere.

THE RELATIONSHIP OF FEEBLEMINDEDNESS TO THE FIELD OF GENERAL MEDICINE.*

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The nervous system is the first structure to form in the fecundated ovum. All other structures develop from it, and it is the basis of their growth, nutrition and function.

Brain development is the most rapid of all body structures. At birth it weighs from 280 to 330 grams. At six months its weight is from 600 to 680 grams. By the end of the first year it weighs from 700 to 800 grams. At puberty its weight has increased from 1100 to 1200 grams, or almost normal for the adult, which is 1200 to 1400 grams.

The cause of the rapid development is apparently a provision of creation. The brain and its auxiliary connections, the sympathetic nervous system, internal secretory system, are merely preparing for the nutrition and development of muscle, bone and so forth, as well as the proper functioning of all body structures.

This rapid increase in the size and weight of the brain is due to rapid multiplication of cells, as well as to individual growth of the same. Development does not occur in all parts of the brain at the same time. The nerve cells of some areas reach maturity much earlier than in the other areas. Those cells of the frontal and parietal regions are the last to reach maturity. These are the seat of the higher intellectual functions. The normal brain is characterized by, first, perfect contour, or gross perfection, equality of hemispheres, orderly arrangement of cells, having clear cut and acute angles. Here it must be remembered that this development is germinal, and a normal brain develops from normal germ plasm cells, transmitted by heredity. From the conception of the fetus, therefore, the extent, or limitation of brain development and consequent intelligence is dependent upon the character, perfection, or imperfection of the germinal cells transmitted from parent to offspring. While it is often the case that gross abnormality and imperfection is found to exist in the brains of the feebleminded, especially those of very low intelligence, it cannot be accepted that feeblemindedness is due to gross pathology or imperfection, as was once believed by the older anatomists and pathologists. Gross imperfections are not so constant in the brains of feebleminded persons, as the histologic imperfections. Primary or hereditary feeblemindedness then is not a condition of arrested development of brain cells, but a lack of inherent capacity of the cells to develop normally.

On post mortem the brains of feebleminded persons show three distinct features as compared to normal brain. First, imperfection of the cells; second, numerical deficiency of cells; third, irregular arrangement of cells.

We must, therefore, conclude that there is an actual physical basis, which reflects one's intelligence, energy, power of adaptability, personality, will power, emotions, etc.

Furthermore, we are now certain that actual brain pathology of inherent character is translated into social pathology; as examples, the feebleminded prostitute, the feebleminded criminal, the pauper, the habitual liar, and many other abnormalities due to subnormal intelligence are certain and outstanding elements.

The medical schools have given such elementary courses on this subject, that after the student has finished, he has hardly learned enough about the brain to fully realize that it is the physical basis of the mind and intellectual capacity. This field of research so full of possibility and hope for the improvement of the race has not been accorded that place in our medical

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teaching, which its great importance would justify.

Mental deficiency of the average imbecile and moron types is one of the physician's stumbling blocks. When the child begins to fail in school, all sources except the true cause are looked for. It is advised that his tonsils be removed, he is fitted with glasses, and in many cases all sorts of glandular extracts are resorted to without improvement. The mongolian type of defective is often mistaken for the cretin, the thyroid extract is administered over long periods of time, without any improvement. These efforts are often honest on the part of physicians, who are anxious to do something for their patients but with the passing of the old order of things and new teachings, with ample clinical material at hand the physician of the present and ftuure should be better prepared to advise his clientele accurately concerning these varieties of defect which in the main are innate and not amenable to cure or even treatment by drugs, or gland extracts. These instead are subjects for proper training, suited to ability, or life long care and supervision.

If physicians were better trained in the inherited pathology of the nervous system, they would better understand many of the phobias, hysterias, peculiarities and weakness of patients who are constanly setting up difficult situations; most of which are the result of an inferiority complex. Finally, the physician cannot ignore the field of inherent pathology. It is his greatest field of usefulness and embodied in its careful study, followed by proper remedial measures, the physician will finally come to his highest service to man—the preservation of the race, and the reproduction of a higher type of citizenship.

DISCUSSION.

Dr. Felix J. Underwood (Jackson): More and more the general practitioner is called upon and expected to find the cause, and when possible remove it, of all mental and physical deficiencies of human beings. In this country the time has passed and gone for the doctor whose investigation consisted of and whose diagnosis depended upon a simple "stick out your tongue," and "feel of your pulse."'

It is being realized more and more by thoughtful members of our profession that the reasons that quackery and cultism have been able to attract so many followers are—first, untrained and unscientific medical men—second, lax and loose methods on the part of many members of the profession who have the ncessary knowledge but who do not take the time necessary to examine patients—third, unwillingness on the part of the profession to give proper publicity to the accomplishments of the profession in the field of preventive and curative medicine. There are many other reasons that could be enumerated, but it is unnecessary here.

In order to understand the cure of any ill, it is necessary first to study and if possible to find the cause. In the field of preventive medicine little or nothing could be done without a knowledge of the etiological factors relative to communicable diseases.

There is a relation of mental deficiency to the field of general medicine. In other words, the general practitioner of today is being called upon and in the future will be called upon more to look over the families that he serves in the capacity of medical advisor and friend once a year, or as often as necessary, not only to find physical defects and to correct them early; not only to prevent typhoid fever, diphtheria, scarlet fever, smallpox, and and other diseases that are so easily prevented, but he will also be expected to find and to roughly classify children who are mentally defective.

Many will be supervised and treated by him at home. Others will be sent to institutions by him where they can be adequately cared for and some of them receive training that will make them more or less useful citizens of the state.

This cannot be done unless the physician is willing to devote some time to the study of mental deficiencies. It is felt that the people should be protected against all forms of quackery as much as possible, and we as a profession must realize that what we are to accomplish for our clientele and for ourselves in the field of medicine and surgery will depend upon our own ability and energy and that we cannot succeed by constantly spending our time cussing the greatest of all Amrican jokes—chiropractic and others equally shameful and nonsensical—imposed upon the body politic.

In line with this subject, let us consider at this time the causes of mental deficiency. They are many and complex. In this discussion, I shall

consider the definitely feebleminded, and then the group of retardations, which cannot be diagnosed as feebleminded.

We prefer, with Tredgold, to divide feeblemindedness from an etiologic standpoint into two general groups, primary or intrinsic (endogenous) amentia, and secondary or extrinsic (exogenous). Primary amentia results from a pathological process or a variation which has affected the germ plasm prior to conception. We shall restrict the term "congenital" to this meaning. In this sense also primary amentia results from extrinsic causes—that is, any pathological process which harmfully affects the offspring after conception has taken place; in point of time this may be intra-uterine, during labor, neonatal, or later in infant live. In this sense feeblemindedness is "acquired." There may be also combinations of primary and secondary causations.

PRIMARY AMENTIA

There are two general views of the origin of the germinal impairment which is held to be the basis of the primary group. The first that this variety of germ plasm is a direct inheritance, through countless years of evolutionary process of forms of mentality which have failed or lagged behind in the process, and have never gained those characteristics, the absence of which we call defects, or which were incapable of further development. The second view is that germinal defect may arise from various causes in a stock which previously was normal. The following are the main causes which are considered to bring about, sooner or later, germinal defect:

(1) Neuropathic inheritance: the presence in one of both of the parents or the family as a whole, of mental disease, epilepsy, or other convulsive disorders, neuroses, and psychopathies.

(2) Unfavorable environment: conditions of life, habits, labor, and manner of living which are unhappy of unhygienic.

(3) Tuberculosis: While it is not a direct cause of feeblemindedness, it may produce in the offspring weakened nervous systems and general impairment.

(4) Alcohol: It may initiate a germinal impairment which will later produce mental deficiency. Alcoholism is frequently found among mental defectives and is to be regarded as a symptom rather than a cause. It may lead to further deterioration of the stock or to its elimination.

(5) Syphilis: Study has been made by means of the Wassermann test on many groups of cases, and positive reactions have been obtained in percentages varying from 2 to 40 or more. Studies of parents of mental defectives, although lesser in number, do not throw any more conclusive light upon the question. Negative Wassermann reactions in cases undoubtedly syphilitic in origin are occasionally met with. Syphilis may either produce a germinal impairment or may impair the embryo after fertilization.

(6) Consanguinity, and age of parents are factors only when a neuropathic diathesis already exists, or, in the case of advanced age of one of both of the parents, if some disease process has brought about physiological deterioration.

Feeblemindedness seems to result from faulty germ plasm in the large majority of cases. In Tredgold's series of 200 cases 80 per cent, and in Goddard's 300, 65 per cent may be designated as hereditary. The manner in which mental defect is transmitted from one generation to another has been the object of much speculation, and the two chief theories of heredity, that of Galton (1822-1911) and of Mendel (1822-1884) have both been utilized to explain the phenomena.

After much deliberation, Goddard concludes that feeblemindedness of the hereditary or primary type behaves as a "unit characteristic," is "recessive" and is transmitted according to the Mendelian theory. This may be illustrated in the six possible matings, as follows:

(1) Normal with normal, resulting in all normal children. Both parents are "duplex normal," that is, they each inherit normal traits from both parents.

(2) Feebleminded with feebleminded: all children feebleminded.

(3) Feebleminded with normal: all children simplex normal, that is, outwardly or apparently normal but each possessing the power of transmitting mental defect.

(4) Simplex normal with feebleminded: half the children feebleminded and half simplex normal.

(5) Simplex normal with simplex normal: one duplex normal, two simplex normal, one feebleminded.

(6) Duplex normal with simplex normal: half duplex normal and half simplex normal.

Davenport represents a different view, and does not believe feeblemindedness is a unit character. He believes rather in the transmission of traits according to the Mendelian theory. He states that feeblemindedness is no elementary trait, but is a legal or sociological, rather than a biological term, and is due to the absence now if one set of traits, now of quite a different set. Only when both parents lack one or more of the

same traits do the children all lack the traits. So if the traits lacking in both parents are socially important, the children all lack socially important traits, e.g., the feebleminded. If, on the other hand, the two parents lack different socially significant traits so that each parent brings into combination the traits that the other lack, all the children may be without serious lack and all pass for normal. However, as many of these traits of such "normals" are derived frim one side of the house only (are simplex) they may, on mating with persons of like origin with themselves, produce obviously defective offspring.

SECONDARY AMENTIA

There are numerous causes which may produce secondary amentia. Apparently this group of cases comprises about one-fifth of the whole (19 per cent in Goddard's series). We may classify these causes according to the period in which they are operative, prenatal, during labor, or postnatal.

PRENATAL CAUSES

The most frequent prenatal cause is an abnormal physical state of the mother. Toxic conditions of pregnancy, typhoid, typhus, smallpox, and cholera are examples of diseases which have been known to produce secondary amentia, also maternal alcoholism, tuberculosis, syphilis, and lead-poisining. Ballantyne's works on the "Diseases and Deformities of the Fetus" (1895) and "Manual of the Antenatal Pathology and Hygiene" (1904) contain valuable contributions to fetal pathology. There is no question that through similar studies much new light will be thrown on the many obscure points in the etiology of feeblemindedness. The mongolian type of mental deficiency seems to be due to some intra-uterine or fetal disease process. Mongoloid signs, however, are found singly, or in various combination in other types of mental deficiency. Amaurotic family idiocy (Tay-Sachs disease) is probably also of prenatal origin.

CAUSES ARISING IN PARTURITION

Mental deficiency arising during the birth process is less common. Little, in his series of cases of physical and mental defects, resulting from abnormalities of labor, published in 1862, found a small number in which cerebral hemorrhage was followed by some degree of paralysis, and mental impairment ("Little's disease"). The infantile cerebral palsies of which Little's disease is one, in which there is nearly always some mental impairment, are due, however, to causes arising in fetal life or early in infancy rather than during labor.

POSTNATAL CAUSES

Such causes are frequently secondary to some infectuous disease such as scarlet fever, whooping cough, diphtheria, easles or some form of meningitis. Trauma, so frequently given by parents as a cause of mental deficiency, is apparently of little or no importance in etiology. The large group of causes in which mental deficiency is accompanied by disorders of the glands of internal secretion is receiving attention. Cretinism, which is due to absence or diminished secretion of the thyroid gland, is the best known example. Other glands of internal secretion, the pituitary, pineal, parathyroid, thymus, adrenal, and gonads, may be the cause, singly or in combination of pathological states in which brain function is affected. The origin of these endocrine disturbances is a matter of speculation, and it is unknown if they are simply a part of a hereditary defect, or if they develop in utero, or in the postnatal period. They are tentatively classed as arising in the later period. Malnutrition never produces mental deficiency if we restrict the term to simple malnutrition following insufficient or improper food, insufficient sleep, recreation, fresh air, or light or other error in personal hygiene. Malnutrition rather is one of the most frequent causes of mental retardation as distinguished from actual mental deficiency.

CAUSES OF RETARDATION.

The causes of retardation, especially in school children, have been considered above. In addition to malnutrition, retardation may be caused by physical defects or disease, of which the following are examples: tuberculosis, bone disease, deformities and poliomyelitis. Disease of the eye, errors of refraction, diseased tonsils, adenoids, and teeth are also often the basis of backwardness. Speech defect is a frequent and important cause of retardation. Sometime these conditions, such as stammering and stuttering, are removable by training; in other instances, the speech defect is only part of a more general language defect, due to imperfect or arrested mental development; here the prognosis is relatively poor and the case is to be considered one of mental deficiency rather than retardation. Deafness nearly always has at least some retarding effect. The earlier the onset and the severer the degree of impairment, the greater the retardation. As in speech defects, some cases are of congenital origin, and often when the deafness is of severe grade, or complete, there is an accompanying retardation ("deprivation defect") or there may be actual mental deficiency of varying grade depending upon the extent of brain defect.

Retardation is usually a functional rather than organic defect, and may arise at any biological stage; for example, the retardation that may accompany delayed puberty. The internal glandular mechanism undoubtedly is much concerned in the production of these states. Often there is no apparent cause for the retardation. In some

instances the child or the individual seems to stand still mentally, then suddenly becomes active and devlops intellectually. Such cases are not rare, even in adult life.

On the other hand, in children an apparent retardation may really represent a condition that will result in "arrest" at a subnormal mental level.

In the face of these facts, which to my mind clearly show the real relationship of feeblemindedness to the field of general medicine, would it not behoove us to make the necessary preparation for a work which we will surely be called upon to do. Let us be prepared to do the job in a satisfactory manner. This will not only insure that these unfortunates get a square deal, which they are now denied, but it will insure a good conscience on our own part for the reason that an obligation will be discharged to the satisfaction of all concerned.

Dr. H. H. Ramsay (closing): This short paper was prepared with single purpose of impressing the members of this association with the fact that there is an actual physical basis which reflects the individual intelligence and emotions. Furthermore, inherent brain pathology reflects a great amount of social pathology with which we are dealing. It is a peculiar situation that for hundreds of years we have neglected the field of inherent brain pathology and fail utterly to recognize the fact that the poor mental equipment of such individuals in our midst is due to the transmission of defective germ plasm from generation to generation. Dr. Frizell, in his discussion hit the key-note of the whole proposition with the plan of recognition, segregation and sterlization. However, preceding any effectual measure for the control of feeblemindedness there must be brought into action a rather extensive educational program for the purpose of bringing about community responsibility for the defective members of the race. We have been carrying only a partial health program for the reason that we have left the brain entirely out of our health examination. It is as easy to determine that a child has a normally developing brain which will carry him through life as an acceptable citizen, as it is to determine that his heart, lungs or other organs are normal and in failing to examine children mentally we are extending all the saving and strengthening power of our health department to the imbecile and morons and thus enabling them to live and reproduce themselves at a more rapid rate. Therefore, our well intended effort in public health work, without recognizing the feebleminded and giving them such classification, supervision, and education as they especially need, is augmenting our social and economic burdens.

I appreciate Dr. Underwood's reference to the retarded child with special reference to such retardation being due to focal infections, defective sight and other conditions which may be amenable to treatment by the physician or specialist. These, however, form a small percentage of retardation. The majority of cases of feeblemindedness are strictly hereditary and it is this form of feeblemindedness in which the state is especially interested from a standpoint of prevention. In approximately 80 per cent of the cases the retardation, or failure of mental development is not due to arrested development of the brain cells, but to a lack of inherent capacity to develop normally. The retardation which is most evident about the age of puberty, is only comparative. The child has been sub-normal all the time but the retardation is more apparent as it grows older. In other words, in the little child with a child's mind, defect is not so evident, but the large boy or girl with the litle child's mind is a contrast which becomes very apparent. There is very little excuse for mistaking mongolianism or cretinism and the administration of thyroid extract to this type of defective. It is true there is a similarity between the two conditions, but each is a clear cut clinical picture within itself. As Dr. Underwood pointed out, we as physicians, must not forget the focal infections or other remediable physicial handicaps, which may retard the nervous system, but at the same time we should be careful not to fool ourselves and trusting parents in the cases of the large number of children who are the victims of inherited feeblemindedness and for whom supervision and occupational training suited to their mental capacities is the only remedy.

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THE FORTY-NINTH ANNUAL SESSION OF THE LOUISIANA STATE MEDICAL SOCIETY

The medical profession of Louisiana met at Baton Rouge in their Forty-Ninth Annual Session the first part of last month. At this meeting there were presented many interesting papers dealing with a variety of subjects. The discussions were actively participated in by the members of the society and from a scientific point of view the meeting was extremely successful, thanks to the notable efforts of the essayists.

It is the carefulness of the arrangements, the hospitality of the hosts and the extremely businesslike manner in which all the functions of the organization went off that we wish to accentuate. There have been few medical meetings so smoothly conducted and at which such a warm and cordial greeting was given the medical profession as by the hosts of Baton Rouge who welcomed the delegates and the attendants at the meeting. Everything was done to make them comfortable and their visit a success. The delightful entertainment prepared by Dr. T. J. Perkins was especially enjoyable and the visit to the State Insane Asylum well repaid the time it took to reach this institution.

The Louisiana State Medical Society is to be congratulated upon their choice of the new President-Elect, Dr. Frank T. Gouaux of Lockport. Dr. Gouaux well deserves the honor conferred upon him and the society honors itself by his election. There have been extremely few men in organized medicine of Louisiana who have been more active in advancing the interest of the medical profession than this distinguished Councilor for many years of the Third District.

To the retiring president Dr. A. A. Herold, the Journal wishes to extend its compliments for the able, conscientious and thoroughly efficient manner with which he has conducted the affairs of the State Medical Society. To the incoming president, Dr. Leon J. Menville, the Journal wishes all success in his endeavors to further the aims of the organization and in his efforts to make the semi-centennial meeting a standard for all future anniversary conventions.

SEMI-CENTENNIAL OF THE ORLEANS PARISH MEDICAL SOCIETY.

The Fiftieth Anniversary of the Orleans Parish Medical Society's existence will be celebrated at a special meeting on the seventh day of May. At this meeting Dr. A. E. Fossier will read a paper on the medical history of the organization, and Dr. Rudolph Matas and Dr. Ernest S. Lewis,

two of the oldest and most distinguished living members of the organization, will also appear.

The fifty years of uninterrupted growth of any organization deserves to be commemorated in a fitting manner. During the fifty years that have elapsed since the inception of this society, many have been its trials and tribulations; yet it has weathered these successfully and now stands forth as one of the most active, progressive and forward moving parish and county organizations in the country. Fifty years is a long span of time according to some standards. According to other standards it is but a short period. When one looks back on the changes that have taken place in medicine in the past fifty years, during which time the entire conception of the science of the healing art has changed, during which time such revolutionary changes have taken place as the development of aseptic surgery and knowledge of microbiology, a one half century is indeed a long period of time. It is during this era that the parish medical society has been able to present to its members all these epoch making contributions to medical science in some form or another. It has lead and guided, directed and taught, always.

May the Orleans Parish Medical Society have many more semi-centennial anniversaries!

HEART DISEASE AND PREGNANCY.

A question which is of interest both to the internist and the obstetrician has to do with the advice that should be given a woman with heart disease who wants to know the advisability of remaining in a single state. Questions that will be asked the doctor include such as: "What is the possibility of my bearing children?" "How dangerous will it be?" "Must I always be childless if I should marry?" "When is the greatest danger, in the early or later stages of pregnancy?" "Will you advise me as to how I must take care of myself if I do become pregnant?" The patient may ask these and similar questions of three or four different physicians and she may receive three or four different answers. It is for this reason that the perusal of a recent paper affords food for thought. The authors call attention to the necessity of treating pregnant women with diseased heart, primarily as cardiac patients; to the emphasizing of rest the four to six weeks before labor; to the lessening of nervous and physical exhaustion in the first stage; to the diminishing of physical strain in the second stage. They note that the majority of the patients with crippled hearts are capable of pregnancy and labor without any great additional risk, but they also stress the importance of noting cardiac failure in the early months of pregnancy which refuses to respond to treatment. This they say should be treated by immediate intervention. A second pregnancy should not be vetoed unless in the former pregnancy there was definite evidence of cardiac failure. They state moreover, that risks are unduly stressed and that pregnancy in a woman with cardiac disease is overclouded by fear and apprehension. This is unfortunate because the hearts respond in a most wonderful way to care and treatment properly applied.

*Hay, John & Hunt, Elizabeth: A Record of 50 consecutive cases of pregnancy and parturition in patients with crippled hearts. Lancet, 1:214. 1928.

TRANSACTIONS OF THE SONIAT-MERCY STAFF.

Drs. Colclough and Daboval were appointed to the junior visiting staff.

The scientific program was taken up by the presentation of five cases of diabetes, each type a problem in itself and requiring varied methods of treatment to curtail the glycemia. The problem of the diabetic in maintaining an adequate diet was gone into and the financial difficulties encountered by the average patient who by necessity must work during treatment. A diabetic diet must be varied in its routine and the carbohydrate, fat and protein equilibrium must remain the same in these patients as well as in the patients as well as in the patients hospitalized and receiving insulin. This is a large factor in their treatment and the problem was gone into with each case presented in an attempt to demonstrate that the indiivdual patient must be re-educated in a limited food intake, though adequate enough for maintainance of body metabolism.

The discussion was opened by Dr. Randolph Lyons who emphasized the financial side of the diet in an individual of moderate means. Dr. Dimitry spoke of the diabetic from the standpoint of opthalmology. There then followed a general discussion by the staff.

In closing Dr. Campagna made a plea for a more systematic method of treating and dieting the diabetic, emphasizing the necessity of a blood sugar determination, the urinary sugar being very deceptive and not a true criteria of the condition of the hyperglycemia.

Dr. Ph. DeVerges cited a case of a child fifteen days old having a four plus Wassermann.

Dr. Maurice Campagna.
Secretary.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

ANNUAL REPORT OF THE RETIRING PRESIDENT—DR. A. E. FOSSIER.

The walk of time is rapid. Although a year has elapsed since you honored me with the great distinction of being your president, it seems but yesterday that I stood on this same rostrum, flushed with pardonable exultation as I expounded in my inaugural address many principles to be presented to the society for its adoption, and a few innovations for its consideration. I gave scanty thought then of this night, this inaugural night, when custom compels the newly elected president to enumerate the deeds he hopes to accomplish, and the retiring president to give you a resumé of the activities of the Society during the year of his administration. Your retiring president must confess that it is with trepidation that he is making this report in which the accomplishments of the past year must be discussed and presented to you, the judges of their merits or demerits.

In many respects, 1927 was a notable year, not only for this society, but for our city as well. It will ever be impressed on our memories. The spell of uncertainty and the fear of disaster hung as a pall over this fair city during the time the mighty Father of Waters threatened our homes; our ardor was dampened to such a degree that during that distressing period, all activities, save that of preparedness, were curtailed. In that time of impending calamity this society did its full duty. It organized its forces in a Committee for Medical Relief in Disaster, and every one of its members stood ready for instant mobilization to the post of duty to which he was assigned.

It is gratifying to note the excellency of the scientific meetings of the past year and their large attendance. This is as it should be, for on the final analysis, advancement in medicine must ever be the dominant aim and purpose of this society. This city is most fortunate in possessing a faculty of physicians, which, by culture, scientific attainments, learning, beneficience, personality and in high standard of ethics, I will state with justified pride, makes the city to stand preeminently among the prominent medical centers of this great country.

Contributions of great medical value were presented at these meetings, not only by members of

this society, but frequently by distinguished visitors, specialists of renown in their different fields of activities. We are indebted for this successful scientific year to the indefatigable efforts of Doctor Leopold Mitchel and his committee, as well as to the enthusiastic response of the essayists of this society.

It is with great pleasure and satisfaction that we must announce the fact that "LONGER LIFE WEEK", both from a medical and lay point of view, was successful beyond our fondest hopes. The inauguration of this movement will be an innovation which will redound to the greater benefit of humanity, for by propounding the idea of LONGER LIFE to the mind of the public by inculcating the necessity of periodical health examination by the family physician, we are performing an altruistic duty, true to the noblest precepts of our profession, the prevention of diseases, the promotion of health and longer life, as well as the greater happiness of our fellow men. The encouragement received from the public at large, and the cheerful help given by our City Fathers, our health authorities, our great newspapers, our large corporations, our merchants. our institutions of learning, our sanitariums, our civic clubs, and many of our other associations too numerous for enumeration, command us to continue this good work, and we would indeed be laggard in our obligation to our public if we would permit this movement to die in its inception. This activity whilst public in its scope must ever remain under the leadership of the Orleans Parish Medical Society. Not only a week in each year should be dedicated to this purpose, but at frequent intervals articles of a medical character should be published in the lay press under the auspices of this body.

The newspaper is the most powerful medium of instruction for the public relative to the conservation of health. Properly regulated, real, truthful and valuable information can be disseminated to the large multitude who read the daily papers. The public has decided that it wants health talk. It is vitally interested in the prolongation of life, and in the prevention of disease, but the knowledge to be diffused should be accurate, impersonal and free of all tinge of commercialism. The scope of the work of this society should be increased so as to include education of the public in health matters.

Dr. Paul J. Gelpi and the gentlemen comprising his efficient committee are deserving of unstinting praise for their indefatigable efforts, and unrelenting zeal in forcing "LONGER LIFE WEEK" December 5 to 10, 1927 to such a successful termination.

Although the primary object of this society is the advancement of medicine and surgery and the encouragement of scientific and philosophical studies, the safeguarding and the promotion of the physical well being of its membership deserves its due consideration. For the first time in the history of this society this phase was given practical attention by the introduction of group insurance for its members. Two hundred and forty-four members of this society availed themselves of the privilege of participating in that plan of life insurance. On the fifth day of December the contract was signed with the American National Life Insurance Company. It is our earnest hope that in the very near future many more of us will take advantage of the exceptional rate of premiums offered by this company. As far as it can be ascertained this is the first Medical Society of this country which has availed itself of this group plan of insurance.

A serious effort was made for the proper regulation of the so-called society practice. It is a vital question which demands careful and deliberate study, for under present conditions it does not work to the best interest of the public and the physician. The society was circularized in order to be able to give this matter due consideration. But for the shortness of time and the negligence of many members in answering their questionnaire this important subject is still in abeyance. It is sincerely to be hoped that this matter will not remain dormant, for with renewed effort it can be brought to a successful solution. A complete report of the result of these questionnaires will be made to the society in the near future.

During the past year the By-Laws have been completely revised, and will soon be ready for distribution.

A joint meeting of the Hospital Abuse Committee of this Society and the Medical Committee of the Board of Administrators of the Charity Hospital was held in the office of its Superintendent on Friday, December 16, 1927, for the purpose of discussing ways and means by which the abuse of the clinics of the hospital by persons not deserving of the charity of the state could be curbed. This is the first time in the history of that magnificent institution that the Board requested a consultation with the medical profession through its organization relative to the management of the institution. Despite the enactment of a law to minimize abuse in our State Charity Hospitals, this evil has grown to such a proportion, that unless steps be taken to curb it, the really needy will be deprived of their constitutional rights in this institution, or, the very resources of the State will be taxed beyond reasonable response. Our Charity Hospital is the fifth largest state or municipal institution of its kind in this country, and is only surpassed in the number of its beds by hospitals of Chicago, New

York and Philadelphia. If we consider the fact that New Orleans ranks the eighteenth city in population, and Louisiana the twenty second State in the Union we readily appreciate that our Legislature has been most generous in appropriations and the State is doing its full duty in caring for its indigent poor.

A conference of the chiefs of staff of the various hospitals of the city and the superintendent of the Charity Hospital was called on Thursday, October 13, 1927, by your president, for the purpose of discussing the feasibility of diverting ambulance patients who are fully able to pay for their hospitalization in the sanitarium of their choice. Under the present ruling of the board of Administrators of the Charity Hospital, all accident cases, irrespective of the wish of the injured person, or that of any member of his family, must be brought to the Charity for treatment. Whilst this arbitrary decree may be based on proper grounds, yet the injured has the inalienable right to the choice of his physician and sanitarium, and besides, this is one of the many causes of overcrowding of the institution. Through the courtesy of Dr. Leake a survey of the ambulance services in other cities was made, and doubtless in the near future a solution of the perplexing question will be found.

I wish to take this occasion to extend the sincere appreciation of the members of this Society to the Administrators of Charity Hospital for their interest in that vital question of abuse, which bodes its early solution.

The activities of this committee were greatly curtailed by the premature demise of its Chairman, our deeply regretted confrere Doctor Maurice Provosty.

> The evil, that men do, lives after them,
> The good is oft interred with their bones.

I frequently wonder if the immortal bard thought of the physician when he expressed this beautiful thought. The philantrophist is kept in remembrance by his charity, the artist lives forever in his art, the poet gains immorality by his verses, the name of the architect or engineer is perpetuated by the edifices he has erected, the gallantry of the warrior and the diplomacy of the statesman make history; but, the physician whose life is dedicated to the cause of science and the welfare of his fellow men, is soon forgotten, the good he has done is interred with his bones. This thought was forcibly impressed on my mind when writing the history of the Charity Hospital. The names of every one of its donors, no matter how modest their contribution, are inscribed on a tablet in the main hall of that institution. But of the physicians who labored within its portals, not only members of its visiting staff of yore, but even its early house surgeons, many were forgotten, and it was only with great difficulty and assiduous research that a nearly complete list of these pioneers of our profession in this city was procured. Yet many of these doctors were distinguished, famous and renowned, of a reputation universally recognized. Sic transit gloria mundi.

By honoring our most distinguished member this Society honored itself. On December 20, a banquet was tendered to Doctor Rudolph Matas under the auspices of this society. One hundred and fifty-one of its members payed homage to the greatness of a fellow Louisianian, and expressed their sincere appreciation to that standard bearer, who by his accomplishments and his learning, carried the banner of this society and of his Alma Mater, the Medical Department of Tulane University, to the foremost corners of the medical world. This was a memorable occasion, for it was one of the very rare instances when a whole faculty of medicine arose as one with such devotional affection to pay tribute to the greatness of one of their number. This occasion will ever be inscribed on the pages of the medical history of this city, and in generations to come will recall to our successors the esteem, the respect, and the love in which we held our Matas.

I respectfully submit for your consideration the suggestion that the name of our revered Chaillé be perpetuated by a yearly monetary prize and a medal to be awarded for the most meritorious essay on some medical subject to be chosen by the board of directors of the society, instead of an oration. The attendance at the Chaillé Memorial Orations have, I am sorry to say, not been as great as the occasion demands, and I am firmly of the opinion that the purpose of this memorial will be best carried out by the idea suggested.

I will repeat from my inaugural address the following, with the hope that at some time the same will fall on some willing ear, and this urgent necessity be realized: "The problem of cheaper hospital facilities is everywhere being agitated. The wealthy and indigent enjoy every medical, surgical and therapeutical advantages, but the great middle class who have not sufficient means to pay for the necessary expensive refinement of medical treatment, and who are too proud and self respecting to accept free service, are penalized for their commendable self-respect, and for their determination to pay their own way."

"There is a paralellism existing between our great medical teaching institutions and our pay hospitals. The time was in the recent past that a medical college was self-supporting and could ably function from the fees obtained from its students. Today these institutions are all endowed, the tuition fees furnishing but a small proportion

of the necessary revenues. It is impossible to bring all hospital facilities within the reach of persons of moderate means, for under present conditions even the best managed institutions show an operating deficit. This condition will become more acute in the future. The only solution is the endowment of these institutions. There is no field of human endeavor which should be more attractive to our philanthropists, for by alleviating the burden of the high cost of hospitalization they will produce great beneficent results, and will prevent the pauperizations of their fellow creatures, and what is still more important, help them retain their self respect."

In many respects the past year has been a year of activity. To be president of this society is a great honor, but it is also a great responsibility for its demands are most exacting. In the past few years the scope of its work has greatly increased; its function was once altogether limited to scientific discussions, but today, we have incurred responsibilities, not only concerning the material welfare of its membership, but we are gradually taking our proper place of influence among the civic organizations of this city, and we are exerting more and more, and properly so, our influence for the public weal.

I wish to express my gratitude to the Board for their courtesy, and I must confess that these meetings were always a source of great pleasure, and their pleasant recollections will be long remembered.

I must also acknowledge my indebtedness to our genial secretary for his guidance, and to his unabating zeal and unrelenting energy must be accredited the major portion of whatever success we may have achieved.

For you, my confreres, who have honored me far beyond my just dues, I owe a debt of gratitude which can never be liquidated. I wish to thank you for your support given to every policy advanced by your officers; without this help and encouragement the past year would have been devoid of constructive results.

In relinquishing this gavel to my successor, I have the satisfaction of knowing that I have performed my duty to the best of my ability, always with one purpose and one thought in mind, the greater good of the Society.

ANNUAL REPORT OF SECRETARY, DR. H. THEODORE SIMON

1927.

To the Officers and Members, Orleans Parish Medical Society:

It is the duty of your Secretary to submit a report of the many happenings of this past year. Some of the enumerated facts will be further mentioned and elaborated, and I beg your indulgence in a repetition which your By-Laws makes necessary.

I feel that there can be little question but that this Society in 1927 has gone through the most active year of its existence in both the number and unusual character of the many happenings.

During this year we have been fortunate in having one of our members signally honored, Dr. Rudolph Matas, having been elected an Hon. Fellow of the Royal Academy of Rome, Italy; Hon. President and Fellow of the Surgical Society of Barcelona, Spain; Hon. Fellow of the Institute of Practical Medicine of Barcelona Spain; Lecturer, by Invitation, at the School of Medicine of the University of Barcelona; Hon. Member and Lecturer, by invitation, at the Spanish National Congress of the Medical Sciences ("Jornadas Medicas") held in Madrid, October 18-23, 1927; Corresponding Member of the Royal Academy of Medicine of Madrid; Member of the Association Francaise de Chirugie; and in America, Hon. Fellow Boston Surgical Society; Hon. Fellow Southern Surgical Association (Pres. 1912).

Membership: The year ended with a total membership of 493 of whom 466 are Active Members, 18 Associate Members, 6 Interne Members and 5 Honorary Members. Rabbi Mendel Silber, also a Doctor of Medicine, and Dr. W. H. Knolle, who had retired from active practice, were both elected to Honorary Membership. Losses during the year numbered 21, these were due to Deaths 7, removals 9, and resignations 5. It is pleasing to report that no members were dropped for delinquency. There was a net gain of 36 which is represented as follows: New members 33, reinstated 3. There is a net increase in the total membership over last year of 10. We have, however, a net increase of 18 in the active membership, which is the largest increase since the year following the World War. This one fact should encourage the membership at large in an endeavor to bring in the remaining 30 or 40 eligible licensed practitioners of medicine in Orleans Parish, there is little possibility of there being more than this number of eligible candidates for membership when we consider 603 licensed physicians and surgeons with likely 80 being internes, there re-

mains only a little over 120, and from this number we can easily assume a possibility of 75 per cent being ineligible (negro physicians, unethical and undesirable white physicians).

Meetings: Your Board of Directors has held 10 regular meetings and 4 special meetings. All members of the Board deserve your consideration for their attendance at meetings and their diligence in co-operating with the President and other Officers in their attempts to dispose of the many matters brought before them.

The Society has held 20 general meetings during the year. Of this number there was the Installation Meeting, 3 Quarterly Executive Meetings, 2 Clinical Meetings, 1 joint meeting with the New Orleans Gynecological and Obstetrical Society, 3 special meetings and 10 regular scientific meetings. The average attendance at these meetings was 90, which was somewhat less than the attendance in 1926. This average has been greatly lowered by the attendance at the Clinical Meetings, when only a mere quorum of 20 members were present on one occasion. The Scientific Meetings, however, were better attnded than those of the previous year. The papers read at the Scientific Meetings were extremely interesting and were on all phases of Medicine and Surgery, some of the work being original. From a scientific standpoint the Society has had a most excellent year. This, I feel, is due to the ceaseless and untiring efforts of the Scientific Essays Committee and its Chairman, Dr. Leopold Mitchell. 20 Scientific papers were presented by the membership and it was also a pleasure of the Society to have as its guests the following, all of whom delivered additional papers on some interesting topic: Mr. Marshall Ballard, Editor of the Item-Tribune; Miss Mary Louise Marshall, Assistant Librarian; Dr. Joseph Reviere of Paris, France; Dr. Jennings C. Litzenberg of Minneapolis, Dr. Henry Laurens of Tulane University, Rabbi Mendel Silber of New Orleans, Dr. Valeria Parker and Dr. Wm. F. Fisk of Chicago.

Stanford E. Chille Memorial Oration: The second Oration commemorating the memory of the illustrious and well-known Dr. Stanford E. Chaille, was held on Tuesday, December 6th, 1927, and Dr. M. G. Seelig, professor of Clinical Surgery of Washington University of St. Louis, was the Orator of this occasion. The attendance on this occasion was very poor when the auspiciousness of this oration is considered.

Revision of By-Laws: After untiring efforts on the part of the Board of Directors the revised By-Laws were referred to the General Body for their consideration. With several meetings of the General Body the complete revision was approved together with some changes in the Constitution. The revised By-Laws and Constitution is now in the hands of the printers, and in the very near future each member will be furnished with a new copy.

Committees: During this past year there has been activities in some few of the Committees. The Hospital Abuse Committee, unfortunately sustained the loss by death of its Chairman, Dr. L. Maurice Provosty, but despite this it has been unceasingly active, having met with the Medical Committee of the Board of Administrators of Charity Hospital in an endeavor to enforce the laws relative to Hospital Abuse which were passed at the last meeting of the Legislature.

The Committee on State Medicine and Legislation has been active and in conjunction with the similar Committee of the Louisiana State Medical Society it presented at two of the special meetings of the General Body some important phases which will be encountered at the next meeting of the Legislature in the spring of 1928.

The revised By-Laws call for a standing Publicity Committee. Unfortunately, with the many other happenings of the year, this Committee has not functioned. It is, however, the recommendation of your Secretary that in this coming year more attention be given the activities of this Committee, especially since the Louisiana State Medical Society has been very active along the lines that this Committee from Orleans Parish should work.

The Judiciary Committee has had many matters referred to it for disposition on several occasions.

Medical Relief in Disaster: Following the suggestion of the American Medical Association, your Society in 1926 approved the plan of medical relief in disaster. It was little our thought then that this organization would be called upon to make plans for disaster in the very near future. However, in the recent flood, which seriously threatened this commonwealth, the entire organization was formulated for immediate medical relief if the flooded waters had entered the city. Acting with the American Red Cross, your Society was completely organized to furnish medical relief in every section of the city. This organization, though merely a paper one, is in the files of the Secretary, and can, at a short notice, be called into active service if the occasion should ever warrant. While it was our good fortune that this Committee had no occasion to function, the city was crowded with refugees from the flood waters of St. Bernard and Plaquemines Parishes. At the request of the Medical Committee of the Citizen's Relief Committee, through its Chairman, Judge

Rufus E. Foster, your members ministered medical aid over a period of several months to many of the refugees.

An honorarium of $122.00 per annum was voted for your Secretary. The odd figure of $22.00 representing the annual dues of the State and Parish Society giving a cash honorarium of actually $100.00.

Group Insurance: At the suggestion of our President, group insurance for your Society was finally voted favorably and a group insurance policy is now in force with 245 members participating in its benefits. The individual policies are for $3,000.00 and the premium is extremely reasonable. Although in force but one short month, the beneficiary of one of our Associate Members will be the recipient of $3,000.00.

Phonographic records and motion picture films of our distinguished members will be taken from time to time, this being approved by the Society following the suggestion of Dr. Emile Bloch, who was later made Chairman of a special committee to investigate this matter. To the present date phonographic records have been made of Dr. Ernest S. Lewis, and motion pictures have been taken of Dr. Ernest S. Lewis and Dr. Rudolph Matas.

Longer Life Week: The Periodic Health Examination Committee, with its Chairman, Dr. Paul J. Gelpi, has launched the first Periodic Health Examination Week December 5th to 10th. During this week the importance of annual physical examination was vividly brought to the attention of practically all of the educated populace of this city. The details of this week will be contained in the report of this Committee.

The Board of Directors has this year sent Miss Mary L. Marshall, Assistant Librarian, to the annual convention of the Medical Library Association. They have found that a delegate to this meeting is of considerable value to the Library, and have recommended that annually a delegate be sent to this Convention.

Rudolph Matas Dinner: A banquet was tendered Dr. Rudolph Matas on December 20th by 150 members of this Society. This was given to Dr. Matas on his return from Europe after receiving his many honors.

It is with regret that I must report the loss by death during the year of the following members:

Drs. Edmond Moss, Philip W. Bohne, Florena G. Rich, Frederick W. Parham, P. B. McCutcheon, L. Maurice Provosty and Chas. A. Adolph.

During this year the following Delegates and Alternates to the Louisiana State Medical Society have been elected for a term of two years:

Delegates.

Dr. John A. Lanford
Dr. W. H. Seeman
Dr. R. B. Harrison
Dr. D. N. Silverman
Dr. Chaille Jamison
Dr. Fred L. Fenno
Dr. M. T. Van Studdiford
Dr. J. C. Cole
Dr. W. H. Harris
Dr. E. L. Leckert

Alternates

Dr. C. V. Unsworth
Dr. Homer Dupuy
Dr. Jerome E. Landry
Dr. B. A. Ledbetter
Dr. A. E. Fossier
Dr. Chas. Chassaignac
Dr. O. C. Cassegrain
Dr. J. Signorelli
Dr. Paul J. Gelpi

Office Organization: The work in the office has increased considerably, due to the number of circular letters sent to the Membership, together with the detail work of collecting and paying the premiums of the group insurance.

I wish to thank Miss Lucille Maier, our Assistant Secretary-Treasurer, for the most satisfactory and business-like manner in which this work was executed, together with her faithfulness and promptness in her endeavors to co-operate.

In conclusion, I wish to thank the President and each member of the Board of Directors for their hearty co-operation and efforts in making the work of your Secretary a real pleasure, and lastly I extend my thanks to the General Membership for the opportunity they have given me to serve the Society and for my re-election to the office of Secretary for the coming year.

Respectfully submitted,

H. Theodore Simon, M. D.,
Secretary.

The following is a brief summary of the annual receipts and expenditures of the Orleans Parish Medical Society:

REPORT OF GENERAL FUND, 1927.

Balance on hand, January 1st, 1927	$ 1,214.56
Receipts	15,243.03
Expenditures	15,971.73
Actual book balance	485.86
Total office expenditures	112.14
Incidentals	445.87
Total special receipts	1,946.33
Total special expenditures	11,278.33

Respectfully submitted,

John A. Lanford, M. D.,
Treasurer.

ANNUAL REPORT OF LIBRARIAN, 1927.

During the year several additions of note have been made in the library. There have been added 870 books, making a total of 13,108 bound volumes. Of the new books, 491 have been received by binding, 58 by subscription, 13 by exchange, 35 by purchase, 140 by gift, and 133 from the New Orleans Medical and Surgical Journal. Notations of new titles has been made monthly in the local journal.

Gifts have been received from 34 sources as noted below, showing our various connections and affiliations.

H. B. Gessner.
Haidee Weeks.
W. A. Lurie.
H. W. E. Walther.
T. J. Dimitry.
Medical Library Association.
Northwestern University Medical School Library.
Marquette Medical Library.
University of Indiana Medical School Library.
Tulane University School of Medicine.
Joseph Hume.
J. A. Lanford.
Leland Stanford University Medical School Library.
University of California Medical School Library.
University of Minnesota Medical School Library.
Iowa State Medical Library.
St. Louis Medical Society Library.
E. McConnely.
Maurice Lescales.
H. Dickson Burns.
E. G. King.
Lane Medical Library.
Paul J. Gelpi.
Montefiore Hospital, New York.
Jefferson County and University of Louisville Medical Library.
Mrs. P. B. McCutcheon.
W. H. Block.
Mrs. John Ochsner.
S. M. Blackshear.
J. H. Musser.
Allen Eustis.
Columbia University.
I. L. Robbins.
Waldemar Metz.

We would call your attention to the new equipment added to the Library during the year, namely, 5 sections of double-face steel shelving, a nine-drawer catalog case, and two oscillating fans for the reading room, as increasing the efficiency of our service and the comfort of our patrons.

The constant reference use of our library is evidenced by the fact that during the year 39 formal bibliographies have been added to our permanent files, on subjects as listed from month to month in our current reports. These bibliographies are available for the use of the membership at any time and form a valuable adjunct to our collection.

Our Library was this year represented for the first time at the Medical Library Association in Washington, and we would announce with some pride the fact that our delegate was made Chairman of the Membership Committee. This representation has proven so much worth while that we shall hope to make it precedent for repetition each year.

In closing, we would commend for your consideration the use of your professional library, including any service or bibliographic guidance which the Assistant Librarian may be able to give you.

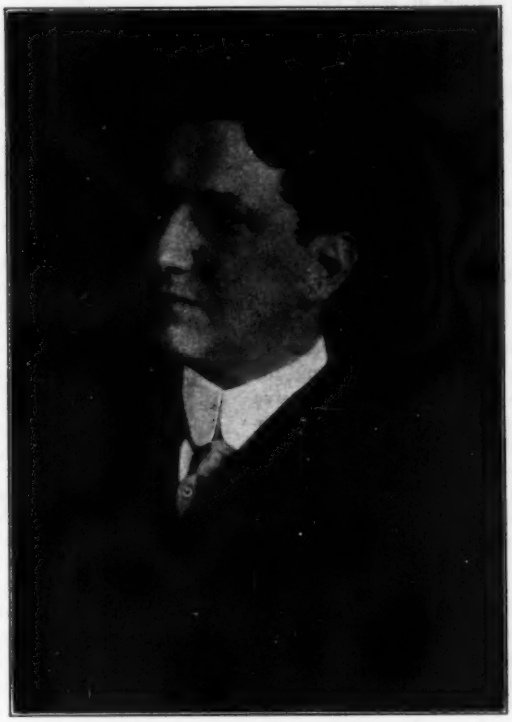
Respectfully submitted by
DANIEL N. SILVERMAN,
Librarian.

INAUGURAL ADDRESS OF PRESIDENT DR. J. BIRNEY GUTHRIE.

Mr. President, Fellow Members of the Orleans Parish Medical Society, Friends:

Tonight it is not difficult to imagine the plight of Phaeton, entrusted for the time being, to drive the chariot of the Sun, praying that the horses will not run away and that the return will be safe and sound. There is a sense of unworthiness that comes to one who has become, for the moment, the selected leader of a body of men and women such as this. Nothing short of infinite wisdom and maturest judgment can suffice under the present need. Your leader must see every opportunity to advance science and organized medicine personified in you. He must be the first to see the pitfalls in the path of the marching columns and turn aside in the journey to avoid them. Every life-function of this organism must he know and the structure of its body. He must be able to sense the things which are harmful, to avoid them and to seize upon the favorable things to keep the body sound. Where is there such a leader? Certainly he who stands before you has no such wisdom or subtlety of misunderstanding. Yet you have chosen him to guide your chariot during the coming year, and knowing his own unworthiness he undertakes the work, finding comfort in the thought that you will overlook numerous mistakes if the task you have set him is moderately well done; and your servant has been sincere and diligent. This much he engages now to you and the rest is in the lap of the gods.

This is no time and this is no place to elaborate an extensive program for the Society for this year. However, there are measures which it may be well to state just now, that appear to demand our attention.



DR. J. BIRNEY GUTHRIE
President Orleans Parish Medical Society.

This year marks the half-century of the organization of the Society. One of our honored seniors told us a short while ago of its inception during the summer of 1878 and its public relationship at this time. It would seem that we owe it to ourselves and to the founders of this Society to make some fitting commemoration of the anniversary of the date. Celebrating a birthday which came during the time of severest trial.

My friends, we know that our medical organization is to be trusted to do its duty, whatever be the emergency—Yellow Fever or War. We are not given to self-adulation; we just carry on; because that is all we know, *noblesse oblige*—and we are brought up so to do. If the public takes us for granted and fails to understand us and the articles of our code, it is because we have never taken the pains to bring about the understanding. Organized medicine in America today has pretty thoroughly laid it down as a plan, that regularly designated channels of communication shall be established with the public through professional workers in the lay press and through professional medical speakers who shall go out and teach the public what it must know of the essential facts of medical knowledge.

You have heard the Librarian's Report and the report from the Treasurer as to the financial condition of the Society. It would seem that under present conditions a proper use of available funds would be to further build up the Library and still further increase its usefulness to the membership. New Orleans today is a great city and in many quarters regarded as a medical center. Carrying out this destiny, our files must be completed and our Library gradually increased until we shall have the necessary reference files on instant call, when needed. Books of the right selection are increasing in value every year and at a rate exceeding the interest rate on any bonds that we can buy.

The organized medical body of Orleans Parish is more than a group of men and women who gather together for scientific discussion. There is an obligation resting on our shoulders which often we are tempted to evade,—the relationship to the public health. In the emergencies of flood, pestilence or war there is none to deny this responsibility. Both the State and City Health Officers have expressed from time to time a wish for our co-operation. Surely, even in times of peace and tranquility, it would seem to be the proper function of this Society to participate in conferences called for consideration of health matters; and it is probable that this Society will approve steps toward that end.

Our By-Laws call for a publicity committee which shall act in a liason capacity between the members of the Society and the public. It is sincerely to be hoped that a strong and active committee operating as laid down in our organic law will help to bring about the mutual feeling of trust and confidence that should exist between the medical profession and the public.

Not long ago, it was announced that at the next meeting of the State Legislature of Louisiana, there would be introduced a bill which would be an attack on the medical practice act. It seemed necessary to undertake a canvass of the entire prospective city delegation to bring political influenco to bear upon each one to secure by some means, his pledge, that he would help to keep inviolate the Medical Practice Act now on the statute books. My friends, was it not pitiful that the mere announcement that the medical profession desired such a course did not suffice to assure its status? The road to medical practice is every

day becoming more and more difficult and the study of medicine more and more expensive as to time and expenditure of money. Young men who have undertaken the journey in good faith and have given their best and done their utmost to fit themselves thus to serve, must have such protection at the journey's end that they will not find themselves forced into competition with the so-called "practitioners" graduates of correspondence courses or the like.

Two years ago a large delegation of the membership of this Society had to leave its work and go to Baton Rouge and take part in a bitter fight to the end that one of the largest public charities in the State be authorized to exclude from its benefits persons who were able to pay. The Board of Administrators of this public charity chose the extraordinary attitude of applying for additional public funds and refusing to receive authority from the State to limit its dispensations to the poor. My friends, if the public had been properly taught by the organized medical body; if the public appreciated its obligation to the medical profession, no board or no legislator would oppose its sincere demand that hospital abuse be curtailed.

Your outgoing President has been most active in the past in the movement I have mentioned, and was the author of the plan which offers more than any other for a solution of this difficulty. Hospital abuse exists today and the Board which at first refused to receive the power to act in the matter has done little to remedy the abuse. It is for us to carry on the movement. If we secure the services of an "investigator" who will bring up the records, specific instances of a violation of the legislative act, we can secure convictions under the law, and the law will become an active force instead of a subject for jest.

A light seems to have dawned, and those in authority are now apparently ready to welcome a movement on the part of the medical profession which, by eliminating the imposters, will give more funds for the care of the poor. If this attitude is in earnest, then can the profession and the administrators work in harmony. If, on the other hand, the abuses continue, the profession is bound, in honor, to speak of them, and our committee will keep the Society informed.

Here again our duty to the public and to the profession seems plain. We must see that public funds are not squandered on imposters, that public servants carry out the law; and that young medical men are not forced to go to these same public institutions and hire themselves out in order to make their start in medicine.

One of the great compensations for work such as you have put upon me to do is the contact with the willing workers who stand always ready to give aid or counsel or effort in our cause. There is a group of devoted men who never have been found wanting when the work was there to do.

It matters not whether it was a collosal organization such as the entertainment of a great national medical convention; a campaign before the legislation; or a systematically planned piece of public education such as our "Longer Life Week". Always this group of men was there to give of their effort and of their time.

I ask now what I know shall get, the helpful co-operation of everyone of you and your patient forbearance when mistakes occur.

In this number of the Journal is a picture of the President of the Orleans Parish Medical Socity, Dr. J. Birney Guthrie, who is now carrying on his duties as President of the organization.

Dr. Guthrie has long been connected with the Charity Hospital of New Orleans. His thirty-one years of continual official service have included all grades of medical service in that hospital from extern and intern to chief of a large service. He has been connected with Tulane University for a period of seventeen years, and is one of the professors of clinical medicine. Dr. Guthrie during the war was early called to service. He spent nearly two years in this country and France. Since the close of the War he has been actively interested in the Medical Reserve Corp, in which he holds the grade of Colonel. Besides being Commanding Officer of the 312th Medical Regiment, he is Division Surgeon of the 87th Division. In addition to being President of the Orleans Parish Medical Society Dr. Guthrie is also Third Vice-President of the Louisiana State Medical Society, and is a Fellow of the American College of Physicians. His bibliography is extensive and contains some notable and thoughtful papers, singling out more specifically those upon digitalis, insulin treatment and pellegra.

During the month of April the Board of Directors has held its regular meeting and the Society its first quarterly executive meeting and one regular scientific meeting.

At the meeting of the Board the routine business was taken up and dispensed with.

The following Doctors were elected to membership: Active Membership—Dr. Peter Cocchiara and Dr. J. W. Warren. Associate Membership—Dr. Wm. A. Chapman.

At the Quarterly Executive Meeting reports of the various Standing and Special Committees were read.

The Condolence Committee, Dr. J. Frank Points, Chairman, proposed the following resolution, which was adopted:

Whereas: By the will of God, Dr. E. M. Dupaquier, our Confrere, was taken from among us.

THEREFORE BE IT RESOLVED: That this Society desires to express to the family of Dr. Dupaquier its regrets and sincere sympathy in its dereavement.

BE IT FURTHER RESOLVED, that the Society adopts this resolution that it may be spread upon the minutes and a copy thereof be sent to the family of the deceased member.

Mr. Paul Godchaux, Jr., was the guest of the evening at this meeting and read the following: "How the Commercial Houses in New Orleans use the New Orleans Retailers Credit Bureau and Collection Department."

At the Scientific Meeting held April 23rd, 1928 the following papers were read and discussed:

"Glandular Fever. Report of a small epidemic in a local orphanage." By .....Dr. I. I. Lemann. Discussed by Dr. D. D. Warren.

"Extensive Osteomyetitis with massive resection." By Dr. O. C. Cassegrain. Discussed by Dr. Alton Ochsner.

"The Presentation of a Case of Type II Pneumonia." By Dr. Chaille Jamison and Dr. H. F. Brewster. Discussed by Dr. H. F. Brewster.

During this past month resignations were received from Dr. George B. Grant who moved to Houston, Texas, and Dr. J. T. Eagleton who moved to Oil City, La.

It is with regret that we report the death of Dr. Nathan Eisnemann, one of our Associate Members.

TREASURER'S REPORT.

Actual Book Balance, 2-29-28	$2,233.06
Receipts during March	3,444.63
	$5,677.69
Expenditures	$2,373.09
Actual Book Balance	$3,304.60

LIBRARIAN'S REPORT

117 books have been added to the Library during March. Of these 82 were received by binding, 10 by gift, 19 from the New Orleans Medical and Surgical Journal and 6 by purchase. Notation of new titles is attached.

Subsequent to the decision of the Society in regard to Library affairs on March 26, Miss Marion Billon has been engaged as Library Assistant, under the new plan.

Word has been received by Miss Marshall, that she has been elected to fill a vacancy occuring on the Executive Committee of the Medical Library Association. The annual meeting will take place in New York in the first week of September.

The new Library furniture has been installed and the reading rooms are in constant use.

New Books

Nelson's Loos-Leaf Surgery, v. 1-4. 1928.

Killer—Nerve Tracts of the Brain and Cord. 1928.

Kelly—Gynecology. 1928.

Sollmann—Manual of Pharmacology. 1927.

LaWall—4000 Years of Pharmacy. 1926.

Wells—Chemical Pathology.

Blumer—Bedside Diagnosis.

Vaques—Diseases of the Heart. 1924.

Nostrums and Quackery. v. 1. 1912.

Mumford—Healthy Growth.. 1927.

Hume—Max von Pettenkorfer. 1927.

Annals of the Pickett—Thomson Research Laboratory. 1927.

Brosseau—Mongolism. 1928.

Smith—Aluminum Compounds in Food. 1928.

Johnson—First Aid and Medical Service in Industry. 1928.

Ashhurst—Surgery. 1927.

Henderson—Textbook of Psychiatry. 1928.

Bind—Regional Diagnosis. 1927.

Arrom—Tratado de Patologia y Clinica Circulatoria. 1928.

H. THEODORE SIMON, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

REPORT OF HOUSE OF DELEGATES TO GENERAL ASSEMBLY.

Baton Rouge, April 12, 1928.

Gentlemen:

We wish to make the report of the activities and business completed by your House of Delegates which adjourned just a few minutes ago after completing all executive business presented. Owing to the unusual shortness of time which is very regrettable it will only be possible for me to report the salient features of the meeting of the House.

The Presidential report was replete with many valuable constructive suggestions so ably presented for consideration by the President's Committee. These points of interest will be more elucidated when publishing the proceedings in our Journal. A detailed financial report and activities of the Secretary-Treasurer's office was reported and adopted. The various Councilors and Committeemen presented valuable reports which after due consideration were passed.

One of the principle reports was that of Dr. Rudolph Matas, Chairman of the Committee on History of the Louisiana State Medical Society. His report gave a prospectus of the needs for the proper function of this work, and also dealt with the necessary expenditures to properly catalogue and put in book form the many important features of our history. When completed this should be a book of ready reference which each and every one of us should be justly proud. In conjunction with this report it was decided that the semi-centennial of the Louisiana State Medical Society which will be in 1929 should be suitably commemorated by some set program jointly with that of the Orleans Parish Medical Society. Their semi-centennial occurs in 1928 and unquestionably agreement will be reached by these two organizations to have arranged a suitable program for this very worthy occasion.

The Committee on Public Policy and Legislation presented a most elaborate report the principles of which imbodied the necessity of every medical man lending his support to the defeat of Chiropractic Legislation which will be introduced in the approaching Legislature.

According to the recommendations made by the Medical Defense Committee and approved by the Journal Committee the annual income from their surplus of $3,000.00 invested in six per cent bonds would be diverted to the Medical Defense Fund for its use.

The following officers were elected:

President-Elect—Dr. F. T. Gouaux, Lockport.

First Vice-President—Dr. C. A. Weiss, Baton Rouge.

Second Vice-President—Dr. F. C. Bennett, Monroe.

Third Vice-President—Dr. J. Birney Guthrie, New Orleans.

Secretary-Treasurer for a term of two years—Dr. P. T. Talbot, New Orleans.

Chairman House of Delegates—Dr. J. J. Ayo, Raceland.

COUNCILORS.

First District—Dr. H. E. Bernadas, New Orleans.

Second District—Dr. Urban Maes, New Orleans.

Third District—Dr. C. C. DeGravelles, Morgan City for the unexpired term of Dr. Gouaux.

Fourth District—Dr. S. C. Barrow, Shreveport.

Fifth District—Dr. D. I. Hirsch, Monroe.

Sixth District—Dr. A. G. Maylie, Covington, for the unexpired term of Dr. Weiss.

Delegate to the A. M. A. for two years—Dr. W. H. Seemann, New Orleans.

Alternate to the A. M. A. for two years—Dr. J. Q. Graves, Monroe.

The various committees were re-elected as of 1927 with the exception that Dr. J. H. Musser was placed on the Committee on Medical Education and Dr. Blackshear and Dr. Kostmayer were elected to succeed themselves on the Journal Committee for a three year term.

The next meeting of the Society in 1929 will be held in New Orleans, La., time to be determined by the Executive Committee at their next meeting.

Suitable resolutions were passed thanking the various agencies in Baton Rouge for their manifestation of cordiality and entertainment during our stay in Baton Rouge. The wonderful work of Dr. C. A. Weiss, Chairman of the Arrangement Committee in conjunction with his Sub-Committees we are indebted for the pleasant arrangement of our social features, entertainment and details for the function of the Scientific Program. Dr. Weiss' devotion to the many details surrounding such a meeting has not only been a distinct pleasure and great deal of assistance to our office but has most materially been the means whereby the members of the Louisiana State Medical Society have had such an enjoyable occasion.

Respectfully submitted,

P. T. TALBOT,
Secretary-Treasurer.

The Seventh District Medical Society held its Spring meeting at the Majestic Hotel, in Lake Charles, on Wednesday, March 21, 1928 at 7:30 p. m. It was the banner meeting of the year, having an attendance of about 60 members.

The program was exceedingly interesting and varied. "Cancer Prophylaxis"—presented by Dr. J. C. Willis of Shreveport, La., was well received —bringing out many points in early diagnosis.

"Salpingitis—The case for expectant treatment," by C. Jeff Miller, of New Orleans, left with us an indelible impression of the advantage of conservatism, and expectancy.

"The several types of uremia", as presented by Dr. John H. Musser of New Orleans, completed the program with everyones' senses alert to the last. It was extremely enlightening, giving to the audience the newest concepts of the physiology of the kidney—and classifying the types by case reports.

The officers elected for the coming year are:

Dr. J. W. Fonk, President, Crowley, La.

Dr. J. D. Hunter, Vice-President, Rayne, La.

Dr. S. R. Henry, Secretary-Treasurer, Crowley, Louisiana.

Dr. E. M. Ellis, Delegate, Crowley, La.

A wonderful dinner was served, during which several violin and piano numbers were rendered.

A motion was made and seconded, that our guests be made honorary members of our Society, passed unanimously. A fitting place for adjournment—so moved—meeting adjourned.

Submitted by,

B. GOLDSMITH,
Secretary-Treasurer.

OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY.

The scientific meeting of the New Orleans Ophthalmological and Otolaryngological Society was held at the Eye, Ear, Nose and Throat Hospical, on Thursday, March 15, 1928. After the disposition of the executive meeting in which Dr. Hume presided, the chair was turned over to Dr. Meyer, Chairman of the Scientific Meeting, in which the following ten cases were presented.

Dr. Cox presented a case of cerebro-spinal rhinorrhoea in which there was no pathology within the nose, no nasal surgery and a negative physical examination save for the rapid drainage of cerebra-spinal fluid from the nose, and choked disc. The history of the case was very brief; a severe headache in right frontal and occipital regions of three weeks duration continuously day and night followed by a sudden gush of fluid from the nose which not only annoyed the patient but nauseated the patient on bending the head backward due to post-nasal drainage. All laboratory examinations were negative except for the confirmation of the rhinorrhoeic fluid. An exploratory craniotomy of the anterior fossa was done by Dr. Oeschner and with the exception of a tightly bound down dura, no pathology was found. The patient rapidly recovered from the operation with no recurrence of the cerebrospinal rhinorrhoea. In the extensive discussion which was opened by Dr. Oeschner, it was stated that on some days as much as 400c.c. of fluid was collected in 24 hours, and as much as 60c.c. in one hour. Dr. Granger pointed out on the roentgen-ray plate the fact that the ethmoid line corresponding to the upper line of the horizontal plate of the ethmoid bone was broken on the right side which suggests an erosion of the tegmen of the labyrinth. Dr. Wagner suggested a probable dehiscence of the roof of the ethmoid associated with increased intra-crainal pressure with rupture of the dura as a possible cause of the cerebrospinal rhinorrhoea.

Dr. Buffington presented a case of pemphigus of the eye which he had presented before this Society two years previously as one of those cases among the rare diseases of the conjunctiva and cornea, to substantiate the fact that the disease is progressive and of constitutional etiology. In the discussion a case was reported of pemphigus of the pharynx which recovered following radical pan-sinus surgery.

Dr. McNair's presentation consisted of four cases of proptosis of the eye.

CASE NO 1. A man 52 years in whom the proptosis followed an injury of the right side of the head, the same side as the affected eye in which a diagnosis of a ruptured ethmoiditis through lamina orbitalis was made. In the discussion attention was called to the opacity of the ethmoid on that side with haziness of the orbital plate. Wassermann was positive.

CASE No. 2. A colored woman, age 38, with proptosis of the right eye with a negative history. Roentgen-ray, opacity of right ethmoid. On palpation a hard mass somewhat nodulated was found in upper part of orbit near inner canthus. Diagnosis, neoplasm of ethmoid with rupture into orbit. In Dr. Granger's discussion he pointed out the break in the outer of the ethmoidial labyrinth wall on the plate.

CASE NO. 3. A traumatic orbital abscess in a boy 26 years who was struck over the eye one week prior to examination. In addition to the proptosis there was much edema of the orbit, lids

and conjunctiva. On puncturing of the orbit pus was obtained.

CASE NO. 4. One of probable gumma of right frontal sinus in a boy of 39 years with a history of gradual swelling and protrusion of right eye ball of several months duration in which the roentgen-ray showed an opaque right frontal sinus with inter-frontal septum pushed over to opposite side very suggestive of a tumor of the frontal sinus. Wassermann was four plus. In the discussion a mucocele of the frontal sinus was offered as a diagnosis, nevertheless, the patient considerably improved under antiluetic treatment.

Dr. Hume's case was one of a foreign body in the esophagus, a thin flat bone which was negative to the roentgen-ray. His purpose in presenting the case was to show the necessity of making several roentgen-rays in different planes as well as to do an exploratory esophagoscopy in the presence of a definite history of foreign body.

Dr. Wagner presented three cases of the excellent end results of dachryorhinostomy for dachryocystitis in which he illustrated the modifications of the Mosher-Totti which were responsible for the overcoming of the fallacies found in most of the other naso-lacrymal operations. He showed by making a low opening in the lacrimal sulcus by removing first the lacrymal crest of the nasal process of the superior maxilla it prevented recurrence of pus because of facilitating drainage downward, Secondly, stenosis was prevented by means of maintaining dilatation of the canaliculi by means of a silk thread and consequently no epiphora, and finally by leaving the upper part of the lacrimal sulcus and mesial wall of the sac at its fundus the passage of air through the canaliculi on blowing the nose was prevented and opening of the ethmoidal labyrinth was avoided. In the discussion details and technique of the operation were given as requested by Dr. Buffington.

Dr. Meyer presented two cases.

CASE I. An adult woman with sudden loss of vision in one eye due to macula edema with few deposites on posterior surface of cornea of unknown etiology in which the Wassermann was anti-complimentary, nose and sinuses negative. Physical examination negative. In discussing the case it was suggested as being hysterical but due to the evidence of pathology in the macular region it was concluded as being albuminuric retinitis.

CASE 2. One of transitory facial paralysis right side and hemiplegia of the opposite side in a child 10 years old with acute suppurative otitis media right ear in which the paralysis recovered in 24 hours and the roentgen-ray showed destruction of the right mastoid. Blood count total leukocytes, 17,600 with 72 per cent of polymorphoneuclears. Urine negative. In discussing the case it was thought that an extension into the posterior fossa had occured, although Dr. Anderson suggested a lesion in the pons of transitory type—that of arterial spasm associated with transitory edema.

WILLIAM A. WAGNER,
Secretary.

DR. EDOUARD MICHEL DUPAQUIER.

1858-1928.

It is with sorrow that the Journal is called to record the unexpected death of Dr. Edouard M. Dupaquier, which occurred at his home in this city on March 13 (1928). It adds no little to the poignancy of his loss that his life so valuable to his family, his friends and to his profession should have been brought to an untimely end by his own hand while laboring under a fit of despondancy caused by brooding over ill health.

Dr. Dupaquier was born in New Orleans on November 9, 1858, and was approaching his seventieth year when the tragedy occurred that brought his useful and honored career to a close.

Though an American by birth and citizenship, Dr. Dupaquier was essentially French by heredity, education and temperament. His father, Dr. Dupaquier, Sr., was a graduate of the Faculty of Paris, who, with his wife, emigrated from Paris to New Orleans, at the time of the famous Coup d'Etat which brought about the fall of the second Republic and placed Louis Napoleon on the throne of France.

The elder Dupaquier who had embraced Homeopathy while in France, acquired a very large and lucrative clientèle soon after his arrival in New Orleans, where he continued to be a conspicuous medical and social figure in the old Carré up to the time of his death.

Edouard Dupaquier, the son, was sent to Paris for his academic and medical education when fourteen years of age and returned to New Orleans in 1885 after his father's death. While in France he pursued his studies assiduously and after a brilliant course of study was graduated Bachelor of Letters and Bachelor of Science, in the University of Paris. He promptly entered the medical school, and was graduated M. D. in the École de Medecine after serving an externat in the hospitals of Paris. While engaged in his medical studies he enjoyed the comradeship and friendship of several of his classmates who attained great celebrity as teachers and investigators in the Faculté, and which continued in after

life, among them the eminent surgeon Prof. Pierre Delbet, to whom Dr. Dupaquier often referred with affectionate remembrance.

When Dr. Dupaquier established himself in New Orleans, he did so as a general practitioner in the regular ranks of the profession and was duly admitted to membership in the Orleans Parish Medical Society and in the Louisiana State Medical Society in 1893. He took a lively interest and active part in the proceedings of these Societies and his valuable cooperation was recognized by his election to the Presidency of the Orleans Parish Medical Society in 1896. In 1900 he was elected Professor of Clinical Therapeutics in the Faculty of the New Orleans Polyclinic (now the Graduate School of Tulane University) and taught this branch until 1902, when the title of his chair changed at his own solicitation, to that of Professor of Clinical Therapeutics and Tropical Medicine. Coincidentally with his election to the Polyclinic he was appointed a member of the Visiting Staff of the Charity Hospital, and continued to teach in this dual capacity until 1913 when he resigned from the Polyclinic and the Hospital to attend to the demands of his large and increasing practice.

EDOUARD MICHEL DUPAQUIER, M. D.

By virtue of his title and his special competence as an authority in tropical diseases (which he taught in the wards of the Charity Hospital and in the Polyclinic, for over ten years) Dr. Dupaquier is justly credited as the founder and occupant of the first chair of tropical diseases officially devoted to tropical diseases in New Orleans and probably in the Southern States. In the many years of his teaching he contributed valuable papers and discussions to tropical diseases which displayed his thorough knowledge of the subject and largely reflected his training in the methods and researches of the French School. But his interests were not limited to tropical diseases. Every new discovery and advance in therapeutics and in the treatment of disease, claimed his interest and attention as shown by his many published papers in the transactions of the Orleans and State Societies, in this Journal and in his unpublished lectures in the post graduate school. He and Dr. de Roaldes were the first to apply Roux's and von Behring's antitoxic serum for diphtheria and he was the first to resort to the Widal sero-diagnostic test for typhoid fever which he did in collaboration with Dr. L. O. Pothier, then pathologist of the Charity Hospital. He was also the first to utilize the cacodylates by intravenous injection after their introduction by Gautheir in France, and later, he also introduced hectine as a substitute for salvarsan in the treatment of syphilis as suggested by the dermatologist, Hallopeau. In cardiology he was an ardent pupil of Hucahrd and in diagnosis and treatment of the viceroptoses he was among the first to draw attention to the importance of these visceral displacements, following closely in the lead of Franz Glenard whose researches were new and ill understood at that time in this country.

After the creation of the Louisiana State Board of Medical Examiners in 1894, he became the official interpreter of the Board in the examination of foreign candidates who applied for license from French, Spanish, Italian and Latin-American countries.

Dr. Dupaquier was a remarkable linguist. Besides his native English he spoke fluently French, Spanish and Italian and could translate all the Romance languages with a surprising ease and correctness. He excelled, however, in French which he spoke and wrote in a masterly style with all the grace, elegance and verve of the most accomplished Parisian intellectuals.

He was the last of a distinguished generation of native Louisianians who had been educated academically and in medicine in France; one of a group of men whose literary accomplishments and contributions to French literature in Louisiana gave a peculiar and unique disitinction to the medical profession of this city and state. There are many physicians in our city and in the Acadian parishes of the State who have inherited the language and the French tradition of the colonial and ante-bellum period and who delight in speaking the language of their ancestors.

But actually there are none left of that galaxy of medical men who flourished in the old Athenée Louisianais and who, though born in Louisiana, had been educated from their childhood in France and had brought back with them all the scholastic thoroughness of their European training; men who could entertain and delight a large cultivated French speaking audience with a purity, beauty and classic perfection of diction that would have been envied by the ablest conferenciers in France.

But apart from his literary and professional accomplishments, Dr. Dupaquier was a delightful colleague and friend. Of retiring and modest habits and a high strung and sensitive temperament, he shunned publicity, but in his intimate friendships with those who understood and appreciated his worth, he was expansive. In his conversations and correspondance he displayed a charming personality in which his brilliant qualities of mind, richly tinctured by the classic lore of the French Masters, were blended with a broad sympathy, understanding and loyalty of spirit, that made his friendship a precious possession.

In the last few years preceding his death he lived in comparative retirement, rarely attending society meetings or public occasions. While still responding to the calls of a limited number of faithful clients, he concentrated his affections upon his beloved family, his wife, his children and grandchildren who, with his favorite authors, gave him the greatest solace and comfort. He died leaving a sorrowing widow, two sons, St. Marc and John W., both married and engaged in business pursuits, and one daughter, Mrs. Hy. P. Dart, Jr., to mourn his loss. The Journal, gratefully remembering his long and faithful collaboration in earlier years, condoles with them in their great affliction. R. M.

EARLIER DIAGNOSIS OF MEASLES.—P. M. Stimson discusses the earlier diagnosis of measles. From exposure to the onset of the first symptom of the disease—usually fever—is the period of incubation. This averages fairly close to ten days, with only rare cases falling outside the seven to fourteen day or second week limit. The duration varies with the virulence of the organism and the resistance of the patient, the more severe cases usually showing the shorter incubation periods. The blood may early show a slight leukocytosis lasting to the middle of the period of incubation, and followed by a more definite lymphocytic leukopenia toward the end of this period. In general, the features of the period of invasion may be readily enumerated chronologically by associating them with the fingers of the outspread hand. Beginning with the little finger is the first symptom, fever. Twelve hours later comes the ring finger, or puffiness of the lower eyelid and perhaps the measles line, together with the first sign of the enanthem or rash on the fauces. Twelve hours later, or middle finger, come the evidences of catarrh, also known as the three C's; to-wit, conjunctivitis, coryza and cough. Twelve hours later, or the forefinger, are found Koplik's spots. Thirty-six hours later, or as far from the forefinger to the thumb as it is from the little finger to the forefinger, comes the rash or exanthem, and for the palm of the hand we have a certain amount of headache and a considerable malaise throughout this period. A fairly definite line of congestion across each lower lid, about at the margin of the tarsal cartilage and perhaps a third of the way from the lid margin to the fornix may accompany the puffiness of the lower eyelids. This so-called measles line must be quite marked to be suggestive. It is best seen for the first time in a child in whose case there is a history of a known exposure to the disease some ten days before the day of examination and who has that day or the day before shown the first slight elevation of temperature above normal. Its duration as a line is quite brief as a rule, the injection spreading in a day or so to involve the entire peripheral conjunctiva and later the palpebral conjunctiva also.

J. A. M. A., March 3, 1928.

HEART DISEASE AS SEEN IN SOUTHERN CLINIC.—Nine hundred and fifteen cases of heart disease were analyzed by Charles T. Stone and Frances R. Vanzant, Galveston, Texas. The patients were fully studied by means of the history, the physical examination, laboratory methods, and many by the roentgen ray and electrocardiograph; and 210 came to autopsy. Of these 915 patients, 436 were hypertensive; 177 were syphilitic; 125 were arteriosclerotic; sixty-seven were rheumatic; twenty-one had angina pectoris; fourteen showed subacute bacterial endocarditis; twelve were thyrotoxic; six had congenital heart disease; forty-five were impossible of classification, and twelve were grouped under the heading "miscellaneous." Here, as elsewhere, the majority of all cases of heart disease fall under one of the four main groups, viz., hypertensive, syphilitic, arteriosclerotic and rheumatic. The authors point out that heart disease, as a whole, is in the South a somewhat different problem from that seen in the East and North, the difference arising chiefly from two large factors: (1) relatively low incidence of acute rheumatic fever and chorea in the South, and (2) the proportionately larger negro population in the South. These two considerations cause a very low incidence of rheumatic heart disease, with a much higher incidence of syphilitic heart disease. Hypertensive heart disease also appears to occur more frequently in the locality from which this report is written than in other sections (Virginia and Massachusetts) where comparable studies have been carried out. This finding may be partly accounted for on the basis of differences in the social strata from which the different reports have been compiled. Also, the comparatively low incidence of rheumatic heart disease causes a relative increase in the percentage of hypertensive heart disease. Over and above these considerations there appears to be a slightly higher frequency of this type of heart disease in the present series, the result, most likely, of the large number of negroes included in the study, and in whom hypertensive heart disease is more frequent than in the white race.

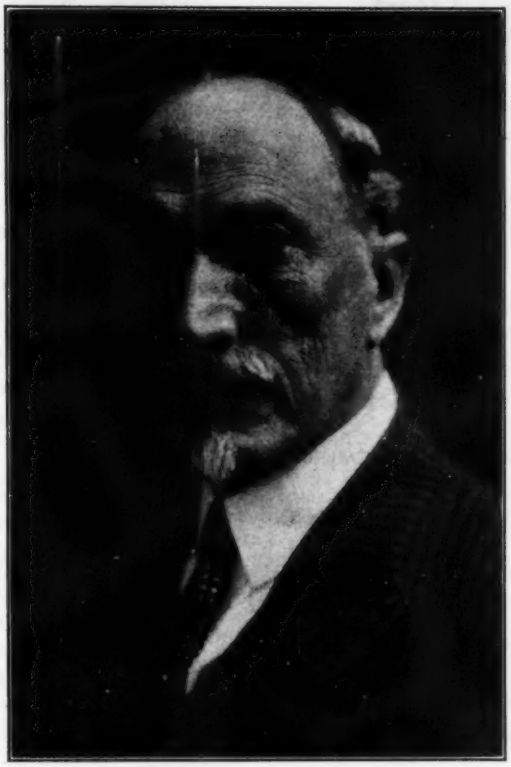
J. A. M. A., October 20, 1927.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

JOHN DARRINGTON, B. S., M. D., F. A. C. S., PRESIDENT, MISSISSIPPI STATE MEDICAL ASSOCIATION.

Dr. John Darrington of Yazoo City, Mississippi, is President of the Mississippi State Medical Association this year. For more than twenty-five years he has been an outstanding figure in the Association and has always been an earnest worker in the cause of organized medicine. He has always emphasized the importance of medical ethics and the need of honesty in the practice of medicine and surgery. He was fighting the fee-splitting evil long before the organization of the American College of Surgeons. His friends and patients know that his life has been an exemplification of the worth of friendship and service.



JOHN DARRINGTON, B. S., M. D., F. A. C. S.
President, Mississippi State Medical Association.

Dr. Darrington is the son of the late Dr. Robert Darrington and Leonora Molliman Darrington. Dr. Robert Darrington was born in the year 1937, in Clark County, Alabama. He was graduated from a New York Medical school and served as a civil war surgeon. He practiced all of his life in Wilkinson County, Mississippi, just south of the Homochitto River.

Dr. John Darrington was born in 1870. He was graduated from A. & M. College of Mississippi with the degree of B. S. in the year 1890, and from the School of Medicine of Tulane University of Louisiana in the year 1892. He served an internship at the Natchez Charity Hospital. He is also a graduate of the Post Graduate Medical School of New York in the year 1898. Dr. Darrington is still a student of medicine and yearly visits the important surgical clinics of the country. In 1898 he opened a private sanitarium in Yazoo City which has grown into the large, splendidly equipped Yazoo Hospital. From the year 1908 to the year 1916, Dr. Darrington was a member of the State Board of Health of Mississippi and did much to bring this body to its present high standard and state of efficiency.

Dr. Darrington is a member of the Central Medical Society, the Tri-State Association of which he was President in the year 1916, the American Medical Association, the Southern Medical Association, Association of Surgeons of the Illinois Central System, and the American College of Surgeons. In addition to his professional activities, he has been prominent in the social, business and civic activities of his home city.

EDITOR CAUGHT.

The Secretary of the State Association in no uncertain terms has asked the editor of this column to note that in the April number of the Journal the question was asked, "Are you going to Meridian, May 10-12? The editor hereby makes due correction and wishes to call the attention of one and all that the Mississippi State Medical Association will meet in Meridian on Tuesday, Wednesday and Thursday, May 8-10, 1928.

It has been a long time since the Association met in Meridian and we have been promised a rousing and cordial welcome. The program as announced by the Secretary of the Association is given below. Dr. H. L. Rush, Secretary of the East Mississippi Medical Society, assures us that there will be ample hotel accommodations as may be seen from the following list:

Lamar Hotel, 200 rooms, rates $2 to $5.
Great Southern, 125 rooms, rates $1.50 to $4.00.
Meridian Hotel, 50 rooms, rates $1.50 to $3.50.
Union Hotel, 40 rooms, rates $1.50 to $4.00.

CITY HALL, MERIDIAN

The Delta Medical Society met in Belzoni, Mississippi, on April 11, 1928 with Dr. R. M. Donald of Moorhead in the chair, Dr. R. S. Finlay, Secretary. There were 150 members and guests present. The following program was presented:

"Recent Advances in the Study of Malaria"—Dr. Paul S. Carley, Greenville.

"Suggestions to the General Practitioner in Diseases of the Eye, Nose and Throat"—Dr. L. C. Davis, Greenville.

"Compound Fracture"—Dr. J. A. Crawford, Greenville.

"Principles of Medical Ethics"—Dr. W. C. Patterson, Rosedale.

"Infections of the Hand; Motion Picture Demonstration"—Dr. R. C. Finaly, Greenville.

Rosedale was selected as the place for the next semi-annual meeting.

GO TO MERIDIAN, MAY 8-10

The regular quarterly meeting of the Homochitto Valley Medical Society was held at Natchez, April 12, at which a motion picture demonstration on "How Biologicals Are Made" was given by Dr. Wilson of Parke Davis & Co. A paper on "Staphlococcic Bronchitis" was presented by Dr. J. S. Ullman, Natchez.

GO TO MERIDIAN, MAY 8-10

The Clarksdale and Six Counties Medical Society held its 52nd semi-annual session at Clarksdale on March 28. Its program was as follows:

"Gall Bladder Drainage, Lyon Technique, Report of Cases"—Furman H. Tyner, Clarksdale.

"The care of Acute and Chronic Laryngeal Stenosis, Diphtheritic and Non-Diphtheritic"—J. H. Lipsey, Memphis, Tenn.

"Treatment of Heart Failure in the Aged"—Newton S. Stern, Memphis, Tenn.

"Thyroidectomy"—John C. Culley, Oxford.

"Observations on Malaria"—Leon S. Lippincott, Vicksburg.

"Diphtheria"—Kinsey M. Buck, Memphis, Tenn.

"Urinary Obstruction"—J. L. Morgan, Memphis, Tenn.

"Pneumonia as a Complication of Syphilis in the Negro"—S. T. Wells, Duncan.

"Caesarean Sections in Motion Pictures"—J. C. Ayres, Memphis, Tenn.

The following delegates to the State Meeting were elected:

Bolivar County—L. B. Austin.

Coahoma County—T. G. Hughes.

Tallahatchie County—G. D. Hightower.

Tunica County—W. H. Williams.

Quitman County—G. C. Denson.

Alternate delegates:

Bolivar County—S. T. Wells.

Coahoma County—A. J. Brown.

Tallahatchie County—J. A. Harris.

Tunica County—R. T. Stapleton.

Quitman County—A. C. Covington.

GO TO MERIDIAN, MAY 8-10

The Issaquena-Sharkey-Warren Counties Medical Society held its regular monthly meeting on April 10, 1928, in Vicksburg. Their program was as follows:

"Jaundice," Preston Herring.

"Ethical Advertising," Edley H. Jones.

This Society has added the following name to its membership roster: R. J. Peterson, Vicksburg.

GO TO MERIDIAN, MAY 8-10

The Tri-County Medical Society held its regular meeting at McComb, Mississippi, March 13th. The program was as follows.

"Modern Treatment of Gonorrhea," Dr. Willoughby of New Orleans representing Dr. Walther.

The next meeting of the Society will be held at Monticello, Mississippi, June 12th.

GO TO MERIDIAN, MAY 8-10

GREAT SOUTHERN HOTEL, MERIDIAN

The program of the Staff meeting of the Vicksburg Sanitarium held Monday, April 9th, was:

"Carcinoma of the Vulva," A. Street.

"Intestinal Disturbance Resulting from Abscessed Teeth Stimulating Chronic Colitis," G. M. Street.

"Compound Fracture of the Femur," J. A. K. Birchett, Jr.

"A Personal Experience"—S. Myers.

The East Missisippi Medical Society met in Union, Mississippi, April 19. The following program was presented:

"Pneumonia"—F. E. Werkheiser, Philadelphia.

"Surgery of the Fallopian Tubes"—W. J. Anderson, Meridian.

"Pellagra"—W. J. Cavanaugh, Meridian.

"Removal of Nail from Right Bronchus with Bronchoscope"—A. C. Touchstone, Meridian.

GO TO MERIDIAN, MAY 8-10

THE DEDUCTIBILITY OF TRAVELING EXPENSES: A CRISIS.

Do you want for yourself and your fellow physicians the right similar to that accorded to other professional and business men to deduct in the computation of federal income taxes expenses incurred in attending meetings of medical organizations? The Robinson amendment to the Revenue Reduction Bill (H. R. I.) authorizes the deduction of such expenses. The Senate Committee on Finance will consider that amendment at an early date. A brief to be submitted in support of that amendment on behalf of the American Medical Association is printed on pages 88 to 95 of this issue. Read it, then telegraph or write to your Senator to support the amendment.

If the amendment is adopted and passed by the Senate, it will have to be passed by the House of Representatives before it becomes a law, so write to your Representative at the same time.

Unless you demand now that this unjust discrimination against the medical profession be discontinued, you will not be in a position to complain of its continuance.

(A. M. A. Bull., Vol. 23, No. 3.)

Dr. J. R. Johnson, graduate of the University of Mississippi and Tulane University of Louisiana, is now Resident Physician at the South Mississippi Charity Hospital at Laurel. Dr. Johnson served one year with Drs. Newell and Newell of Chattanooga, Tennessee, prior to going to Laurel.

The friends of Dr. J. R. Kittrell of Laurel will be pleased to know that his wife is convalescing from her recent operation for acute appendicitis.

Drs. W. E. Easterbrook and J. K. Oates have recently located in Laurel.

PROGRAM OF THE MISSISSIPPI STATE MEETING.

GENERAL MEETING—FIRST DAY.

Tuesday, May 8, 1928.

Session 9:30 A. M. to 12 M.; 1:30 P. M. to 6 P. M.

Elks Club.

OPENING EXERCISES.

1. Call to Order—President John Darrington, Yazoo City.
2. Invocation—Rev. Norman W. Cox, Meridian.
3. Report of Committee on Arrangements.

SECTION ON SURGERY.

J. W. Barksdale, M. D., Chairman,

Jackson.

1. Open Operation in Fracture of the Shaft of the Femur.

By J. H. Rush, M. D.,

Meridian.

Discussion to be opened by J. S. Ullman, M. D., and T. G. Hughes, M. D.

2. Acute Osteomyelitis.

By H. A. Gamble, M. D.,

Greenville.

Discussion to be opened by F. M. Sandifer, M. D., and W. F. Gill, M. D.

3. Direct Blood Transfusion.

By E. H. Galloway, M. D.,

Jackson.

Discussion to be opened by S. H. McLain, M. D., and W. C. Brewer, M. D.

4. Duodenal Fistula Following Gastric Resection.
   By W. H. Parsons, M. D.,
   Vicksburg.
   Discussion to be opened by T. E. Ross, Jr., M. D., and Theo. Mitchell, M. D.

5. Some of the Problems of Industrial Surgery.
   By David Walley, M. D.,
   Lumberton.
   Discussion to be opened by L. B. Hudson, M. D., and J. S. Gatlin, M. D.

6. Acute Conditions Within the Abdomen.
   By J. M. Acker, Jr., M. D.,
   Aberdeen.
   Discussion to be opened by C. R. Berry, M. D., and C. A. Pender, M. D.

7. The New Era in General Surgery.
   By W. H. Anderson, M. D.,
   Booneville.
   Discussion to be opened by B. L. Crawford, M. D., and R. L. Silverstein, M. D.

8. The Use of Radium in the Treatment of Uterine Diseases.
   By W. W. Crawford, M. D.,
   Hattiesburg.
   Discussion to be opened by W. B. Dickens, M. D., and J. C. McNair, M. D.

9. Treatment of Lung Abscesses.
   By S. H. Hairston, M. D.,
   Meridian.
   Discussion to be opened by Paul Gamble, M. D., and L. C. Feemster, M. D.

10. Placenta Previa.
    By J. F. Lucas, M. D.,
    Greenville.
    Discussion to be opened by D. P. Street, M. D., and J. W. Bailey, M. D.

11. Conservation in Surgery.
    By J. F. Armstrong, M. D.,
    Jackson.
    Discussion to be opened by T. F. Elkin, M. D., and S. W. Johnston, M. D.

12. Spinal Anesthesia in Major Surgery.
    By J. K. Avent, M. D.,
    Grenada.
    Discussion to be opened by R. D. Sessions, M. D., and B. B. Martin, M. D.

EVENING SESSION—EIGHT O'CLOCK.
Tuesday, May 8, 1928.
City Hall (Auditorium).
To Which the Public Is Cordially Invited.

1. Invocation—Rev. A. F. Watkins, Meridian.
2. Addresses of Welcome: On behalf of the City of Meridian—Mayor W. H. Owen.
   On behalf of the East Mississippi Medical Society—T. A. Royals, M. D., Meridian.
3. Response to the Address of Welcome—J. P. Wall, M. D., Jackson.
4. President's Address—John Darrington, Yazoo City.
5. Annual Oration—J. A. Crosler, M. D., Memphis, Tenn.

GENERAL MEETING.
Second Day.
Wednesday, May 9, 1928.
Session 9:00 A. M. to 12:30 P. M.
Elks Club

SECTION ON HYGIENE AND PUBLIC HEALTH.
C. M. Shipp, M. D., Chairman,
Bay St. Louis.

1. Training Health Workers—How and Why.
   By M. C. Balfour, M. D.,
   Indianola.
   Discussions to be opened by F. J. Underwood, M. D., and D. J. Williams, M. D.

2. Some Essentials in a Dental Health Program.
   By Wm. R. Wright, D. D. S.,
   Jackson.
   Discussion to be opened by F. M. Smith, M. D., and W. D. Beacham, M. D.

3. Observation of Some Chronic Diseases Confronting Public Health Workers.
   By Wallace Sheely, M. D.,
   Gulfport.
   Discussion to be opened by I. W. Cooper, M. D., and E. D. Kemp, M. D.

4. Standard Milk Ordinance with a Plea for Uniformity in Procedure and Active Support of the Medical Profession.
   By L. S. Frank, M. D.,
   Montgomery, Ala.
   Discussion to be opened by W. E. Noblin, M. D., and D. V. Galloway.

5. Food Contamination.
   By D. G. Rafferty, M. D.,
   Pass Christian.
   Discussion to be opened by J. E. Green, M. D., and C. C. Buchanan, M. D.

6. The Control of Tuberculosis in Mississippi.
   By Henry Boswell, M. D.,
   Sanatorium.
   Discussion to be opened by L. B. Austin, M. D. and C. A. Sheely, M. D.

SECTION ON EYE, EAR, NOSE AND THROAT.

Geo. A. Adkins, M. D., Chairman,
Jackson.

Session 9:00 A. M. to 12:30 P. M.

1. Lateral Sinus Thrombosis: A Review of the Literature and Report of Cases.
By D. W. Hamrick, M. D.,
University.
Discussion to be opened by B. S. Guyton, M. D.

2. Bacteremia Complicating Acute Suppurative Otitis Media.
By D. C. Montgomery, M. D.,
Greenville.
Discussion to be opened by E. LeRoy Wilkins, M. D.

3. The More Serious Complications in Acute Mastoiditis.
By W. B. Dobson, M. D.,
Jackson.
Discussion to be opened by E. F. Howard, M. D.

4. The Value of Lipiodol in Otolaryngology.
By F. E. Lejune, M. D.,
New Orleans.
Discussion to be opened by C. A. McWilliams, M. D..

5. The Eye Picture, Briefly, In Relation to Intracranial Lesions: Report of Cases.
By Fern Champenois, M. D.,
Hattiesburg.
Discussion to be opened by W. A. Stevens, M. D.

6. The Early Treatment of Strabismus.
By H. L. Arnold, M. D.,
Meridian.
Discussion to be opened by E. L. Posey, M. D.

7. Contusions of the Eye-Ball.
By M. H. Bell, M. D.,
Vicksburg.
Discussion to be opened by W. S. Harper, M. D.

SECTION ON MEDICINE.

W. H. Frizell, M. D., Chairman,
Brookhaven.

Session 2:00 P. M. to 5:00 P. M.
Elks Club.

1. The Sugar Fed Child.
By Seale Harris, M. D.,
Birmingham, Ala.
Discussion to be opened by N. C. Womack, M. D., and Elise Rutledge, M. D.

2. Staphylococcic Bronchitis.
By J. S. Ullman, M. D.,
Natchez.
Discussion to be opened by L. S. Gaudet, M. D., and H. F. Garrison, M. D.

3. Influenza.
By S. E. Eason, M. D.,
New Albany.
Discussion to be opened by J. S. Donaldson, M. D., and S. Myers, M. D.

4. Tuberculosis.
By T. D. Bordeaux, M. D.,
Meridian.
Discussion to be opened by W. H. Anderson, M. D., and D. T. Langston, M. D.

5. The Status of Biological Preparations in Therapeutics.
By O. W. Bethea, M. D.,
New Orleans.
Discussion to be opened by M. W. Robertson, M. D., and M. H. Bell, M. D.

6. The Valves of the Heart in Action (Lantern Slides).
By G. W. F. Rembert, M. D.,
Jackson.
Discussion to be opened by J. H. Rush, M. D., and Geo. Baskerbill, M. D.

GENERAL MEETING.

Third Day.

Thursday, May 10, 1928.
Sesison 9:00 A. M. to 12:00 M.
Elks Club.

SECTION ON MEDICINE *(Continued)*

7. The Function of a Modern Hospital For Mental Diseases in Our Social Scheme.
By H. E. Austin, M. D.,
Meridian.
Discussion to be opened by S. E. Eason, M. D., and H. H. Ramsey, M. D.

8. Medical Sociology.
By O. N. Arrington, M. D.,
Brookhaven.
Discussion to be opened by G. S. Bryan, M. D., and J. P. Wall, M. D.

9. A Discussion of the Psychoneuroses—A Neglected Field in Medicine.
By W. A. Dearman, M. D.,
Gulfport.
Discussion to be opened by M. J. L. Hoye, M. D., and H. H. Ramsey, M. D.

10. The Problems of Uremia.
By J. H. Musser, M. D.,
New Orleans.
Discussion to be opened by W. A. Dearman, M. D., and W. W. Crawford, M. D.

11. The Treatment of Neuro-Syphilis with Special Reference to the Method of Inoculation with Malarial Blood.
By Isham Kimbell, M. D.,
Gulfport.
Discussion to be opened by J. H. Fox, M. D., and J. G. Gardner, M. D.

BOOK REVIEWS

X-ray and Radium in the Treatment of Diseases of the Skin: By George M. MacKee, M. D. 2nd ed., Philadelphia. Lea & Febiger, 1927. pp. 788.

All dermatologists, radiologists and many of the general profession have awaited the arrival of the 1927 or 2nd edition of Dr. MacKee's masterly work.

It is characterized by his scrupulous care in collection, correlation and presentation of material in which the author very wisely has drawn on the associate masters of the sciences to record only the genuine.

One can only be amazed to find in one text of 760 pages the history, physics, biology, chemistry, therapeutics, pathology and indications and contra-indications of the use of X-ray and radium.

Those of us who have had the good fortune to study with the master and his associates should be very proud of his accomplishment, a standard of modern radiotherapy in dermatology.

M. T. VAN STUDDIFORD, M. D.

Food Infections and Food Intoxications: By Samuel Reed Damon, A. M., Ph. D., Baltimore. The Williams & Wilkins Co., 1928. pp. 266.

This is an excellent little book on the subject treated. The presentation is clear and concise and the text is not burdened with a multitude of citations of doubtful value. The overworked diagnosis of "ptomaine poisoning" is no longer considered tenable, and every argument offered by investigation into the cause of food poisoning is advanced to abolish it.

There are nevertheless some features that do not seem consistent with the title, viz. the including of actinomycosis, which is not ordinarily transmitted to man through infected meat. And for the sake of completeness the failure to include both typhoid and dysentery in the spread of which food may play a conspicuous role is obvious. These, however, are minor details which in no way detract from the usefulness of the book.

L. C. SCOTT, M. D.

Max von Pettenkofer: By Edgar Erskine Hume, M.D., Dr. P.H., LL.D., Major, Medical Corps, U. S. Army, N. Y. Hoeber, 1927. pp. 142.

A very brief study of Max von Pettenkofer's life and work. The Chapter on Etiology of Cholera and other Intestinal Diseases should prove of interest to the reader.

I. L. ROBBINS, M. D.

Bedside Diagnosis: Edited by George Blumer, M. D. Vols.. I, II, and III, with Index. W. B. Saunders Company, Philadelphia and London. 1928. pp

Many large volume works have appeared on certain phases of medicine, but for the first time we have incorporated with sufficient authority and with a sufficient attention to detail a work which contains important features of diagnosis, of a diagnosis which has for its basis the determination of what is wrong with the patient when he is viewed by the physician from the side of the bed. A book such as this is a refreshing addition to medical literature in this day when highly technical works, great specialized volumes and laboratory tomes appear to discuss disease conditions. The editor of these three large well edited clearly published works has made as its fundamental purpose the most important factor in diagnosis, namely, the use of the five unaided senses. Laboratory methods are spoken of and their value is shown, but no effort has been made to recount or to describe any technical procedures. Most of the contributors have conformed in a remarkable way to the request of their editor, to stress history and physical examination, or perchance it may be that the editor has recast or edited the articles so that his preference has been expressed in the final form of the book.

The contributors to this work are for the most part men whose names are recognized throughout the English speaking world, and authorities in their particular line of endeavor. Articles by authors such as Lawrason Brown, Maud Abbott, Roger Morris, C. F. Hoover, Roger Lee, C. C. Bass, and Kenneth Blackfan suggest that the authors of this system have been selected wisely and well.

J. H. MUSSER, M. D.

Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord: By Robert Bing. 3d ed. rev. and enl. St. Louis, C. V. Mosby Co. 1927. pp. 204.

Is well worth a place on the book shelf of the neurologists or any other physician. It is well arranged for quick reference and study of focal symptoms. Previous editions to this book are so well know that little comment is necessary as to the subject matter. There are a few changes in this last edition from the older ones, and it would seem to me that they are not all for the better. However, the book is well worthy of consideration.

E. McC. CONNELY, M. D.

Diseases of the Skin: By Henry H. Hazen, A. M., M.D., 3rd ed. St. Louis, C. V. Mosby Co. 1927. pp. 572.

The 1927 Edition (The Third Edition) of Dr. Hazen's useful treatise on the diagnosis and therapy of skin diseases has its place on the modern book shelf.

It is fully illustrated and carries many prints of common and rare diseases, so often encountered in temperate and semi-tropical practice. It also presents many prints characteristic to the colored race.

The book is very up-to-date in the dosage for Radium, X-ray, Alpine Lamp, and High-frequency Fulguration. Every paragraph clearly demonstrates the authors ability as one of the leading writers on subjects Dermatological. It will be a valuable text and source of reference for some time to come. One can highly recommend this edition.

M. T. VAN STUDDIFORD, M. D.

Clinical Researches in Acute Abdominal Disease: By Zachary, B. A., M. D., M. S. (Lond.), F. R. C. S., (Eng.). 2nd ed. London, Oxford University Press. 1927. pp. 214.

This second edition, as shown in the preface, contains a chapter on Extravasation of Bile, Ascending Enteritis and the subject of Shock. As in the first edition the chapters on Hyperesthesia, Phrenic Shoulder Pain and Subacute Perinephric Abscess are thoroughly dealt with. As one reads this book it can be readily seen that the author refers to diagnosis points that are generally overlooked in other texts. He gives five rules to show how clinical research can be made,—valuable, i. e. accurate observation of the facts if each case investigated, etc.

In Chapter 2, in discussing the function of the parietal peritoneum, for clinical purposes he divides the abdominal parietal lining into demonstrative and non-demonstrative areas. The remainder of the chapter deals with local and referred pain. The chapter which follows discusses muscular rigidity, cutaneous hyperesthesia and hyperalgesia, with reference to each disease.

Chapter 5 deals with the clinical study of Phrenic Shoulder Pain with special bearing on diagnosis of acute abdominal disease. This subject is also discussed with its relation to different abdominal conditions and thie manner in which the pain is referred.

The following chapters show the differential diagnosis between acute thoracic and acute abdominal lesions and are very well arranged, bringing out many helpful points.

Under the head of Genito-Urinary symptoms in Acute Appendicitis, these conditions are cited as occurring but their importance is in the minority. The explanation of the Femoral Test for Hypogsdtric Peritonitis is dealt with with case references.

The subject of Shock and Collapse, with special reference to Acute Abdominal Disease is treated thoroughly and brought up to date.

The manner in which the author presents his subjects with collateral cases, makes this book most interesting.

EMIL BLOCH, M. D.

Harvey Lectures, 1926-1827. Baltimore, Williams and Wilkins Company. 1928.

A somewhat smaller volume than usual from the Harvey Society of New York, containing such splendid essays that it looms larger scientifically than the usual number with many more pages.

J. H. MUSSER, M. D.

Collected Papers of the Mayo Clinic and the Mayo Foundation. Vol. 18, 1926. Philadelphia, W. B. Saunders Co. 1927. pp. 1329.

This volume represents 200 papers covering the work accomplished in the various fields of medicine and surgery by members of the Staff during 1926. The work is of chief interest to the general surgeon and diagnostician. Sufficient papers from the special fields have been included so as to make this volume worth while to every physician.

The papers dealing with duodenal and gastric ulcer, the medical and surgical management and the various complications associated with same are especially complete and worthy of detailed study.

There are a total of 23 papers dealing with the biliary apparatus. This includes a good report on the hepatic function tests. The experimental work of Mann and his associates on the physiology of the liver is brought up to date in this volume.

There are 1272 pages of interesting medical facts of interest to every physician.

SHIRLEY LYONS, M. D.

First Aid and Medical Service in Industry: New Brunswick, N. J., Johnson & Johnson. 1928. pp. 136.

A description of what should be found in first aid stations in various industries, issued by a prominent firm prepared to supply these needs.

J. H. MUSSER, M. D.

Tratado de Patologia y Clinica Circulatoria: By Dr. Duran Arrom. Libreria Sintes, Barcelona. 1927. pp. 719.

Apparently a very excellent description of pathology and the clinical manifestations of altered physiology of the circulatory system. Nicely printed with splendid illustrations and many beautiful colored plates.

J. H. MUSSER, M. D.

Neoplastic Diseases: A Treatise on Tumors: By James Ewing, M. D., Sc. D. 3rd ed. Philadelphia, W. B. Saunders Company. 1928. pp. 1127.

This is the third edition of this well known reference work, revised and enlarged, due to the steadily expanding knowledge of neoplastic diseases, which has required extensive changes. The discussion of bone tumors has been rewritten on the basis of recent information, gleaned almost entirely from the Codman Registry of Bone Sarcoma, and several new sub-varieties incorporated. The classification of mammary cancer has been simplified and brought into closer agreement with the clinical varieties.

The subject of brain tumors has been rewritten, including recent contributions in this field and the nomenclature changed with regard to the newly ascertained studies. About sixty new illustrations, gross, microscopic, and radiographic, have been added.

In all, there are forty-nine chapters; the first nine of which include General Oncology; setting forth in detail the historical facts, definitions, classification, and general pathology; malignancy and its effect on the organism; metastasis; the chemistry of tumors; their serology; theories of the nature of cancer; the special etiology of tumors, and experimental research.

The remaining forty chapters are given up to the discussion and description of special oncology and include fibroma, myxoma, lipoma, chondroma, osteoma, myoma, angioma, sarcoma (clinical types, sarcoma of bone and bone-marrow), endothelioma, lymphoma and lymphosarcoma, tumors of the brain, tumors of the nerve trunks, tumors of the spinal cord and meninges (membranes); the general pathology of epithelial tumors, and the epithelial tumors of the breast as well as other tumors of the breast; cancer of the uterus, vulva, vagina, chorio-epithelioma, cysts and tumors of the ovary (ovarian teratoma); carcinoma of the stomach and intestine; epithelial hyperplasia of the liver and tumors of the liver; tumors of pancreas; maxillary tumors of dental origin; epithelial tumors of the kidney and of the salivary glands; tumors of the adrenal, prostate, testis, lung, epidermoid carcinoma, melanoma, tumors of thyroid, the thymus, hypophysis, the pineal gland and its tumors, and teratology.

The bibliography has been verified, and many less important references dropped but due to the rapid increase of American and Canadian contributions, the most recent of these are not included. There is an excellent index.

The work is an attempt to present tumors as specific diseases. It is of unsurpassed value to the surgeon and clinician, and without doubt one of the best available reference books on tumors.

O. M. L. LARRIMORE, M.D.

Mongolism: By Kate Brousseau. Williams and Wilkins Company. Baltimore. 1928. pp. 210.

An excellent monograph on the etilogy, pathology and general characteristics of an interesting state of congenital mental deficiency.

J. H. MUSSER, M. D.

PUBLICATIONS RECEIVED

F. A. Davis Company, Philadelphia: Practical Dietetics, by Sanford Blum, A. B., M. S., M. D. Diabetes, by Orlando H. Petty, A. M., M. D., F. A. C. P.

P. Blakiston's Son & Company, Philadelphia: A Compend of Pharmacy, by F. E. Stewart, Ph. M., M. D., Phar. D., F. A. C. P.

Williams & Wilkins Company, Baltimore: Anthelmintics and Their Use, by R. C. Chopra, M.A., M. D.

J. B. Lippincott Company, Philadelphia and London: International Clinics, Vol. I, March, 1928.

Lea & Febiger, Philadelphia: The Use of Symptoms in the Diagnosis of Disease, by Hobart Amory Hare, B. Sc., M. D., LL. D. Otology, by Gorham Bacon, A. B., M. D., F. A. C. S.

C. V. Mosby Company, St. Louis: Physical Diagnosis, by W. D. Rose, M. D. Gynecology for Nurses, by Harry Sturgeon Crossen, M. D., F. A. C. P. Strabismus, by Oscar Wilkinson, A. M., M. D., D. Sc.

Paul B. Hoeber, Inc., New York: Special Cytology, Volumes I and II, edited by Edmund V. Cowdry. Lobar Pneumonia, by L. R. Sante, M. D., F. A. C. R., F. A. C. P. Clinical Aspects of the Electrocardiogram, by Harold E. B. Pardee, M. D. Cardiac Arrhythmias, by Irving R. Roth, M. D.

U. S. Government Printing Office, Washington, D. C.: The Medical Department of the United States Army in the World War, Volume XIII, Part 1, Physical Reconstruction and Vocational Education by Maj. A. G. Crane, S. C.; Part 2, The Army Nurse Corps, by Julia C. Stinson. Mortality Statistics, 1925, Part 1.

Miscellaneous: Mechanics and Chemistry of the Human Body, by O. Boto Schellberg, New York City. High Frequency Practice, by Burton Baker Grover, M. D. Reflections, a book of poems, by James T. Nix, M. D., LL. D., New Orleans.

REPRINTS

Urethral Pathology in Women, by Winfield Scott Pugh, B. S., M. D., New York, N. Y.